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ORIGINAL ARTICLES.

PATHOGENESIS OF BRONCHITIS, IN INFANTS AND CHILDREN.

Read in the Section on Diseases of Children at the Forty-fourth Annual Meeting of the American Medical Association.

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The doctrine that bronchitis is the result of exposure to cold and moisture, is so generally accepted, that it is rather uncommon to lay stress upon the other factors which lead to it. And yet a consideration of the subject leads to the belief that these other factors are perhaps the more important and the more frequent causes.

Your attention is therefore invited to a general consideration of the etiologic factors leading to bronchitis in infants and childhood.

Many of the exanthemata have bronchitis as a concurrent symptom. Especially is this true of measles and rötheln. Influenza and whooping cough must also be included in the list of acute infectious diseases which present this condition. It is customary to speak of the bronchitis accompanying these diseases as a specific bronchitis. The qualifying title is very proper, but the bronchitis does not differ in any way from the same condition induced by other causes. Hamilton has shown that the morbid anatomy of acute bronchitis is always the same, whatever its cause.

It will probably be admitted without question, that bronchitis occurring in an acute infectious disease is but one of the symptoms of that disease, and is produced by the same poison which is producing the other symptoms. Whatever be the poison, its ultimate action must be a chemic one, so that it is possible to formulate the doctrine that in certain infectious diseases, a chemic poison, acting in all probability through the medium of the central nervous system, is capable of producing the condition, bronchitis.

In this connection, it is well to refer to a case reported by Hamilton in his well-known work on the "Pathology of Bronchitis," etc. He noticed in an otherwise healthy man, dead of opium poisoning, a condition of bronchitis, which he concludes was produced by the opium poisoning itself. This seemed rather anomalous to Hamilton, but with the light of modern pathology, it is not surprising at all to find a purely chemic substance leading to the production of this symptom.

Besides the diseases already mentioned, typhoid fever must be referred to as a cause of bronchitis. This cause is particularly active in infants and young children, in whom the other symptoms of typhoid are often, indeed usually, but poorly marked, while the bronchial symptoms are exaggerated. It is not an uncommon experience for me to have a child brought for a "cold" so-called, and to find on examination, besides the bronchitis, an eruption of rose-colored spots, an enlarged spleen, an elevated temperature, and the typical tongue of typhoid of infants and young children; that is to say, a tongue coated in the center of each lateral half, with a whitish or yellowish fur, and having red edges and red tip, the redness often extending up the center of the tongue in a wedge-shaped patch. These conditions justify the diagnosis of typhoid fever. I am perfectly certain that many cases of typhoid fever in infants and young children are overlooked, and simply the diagnosis of bronchitis made from the symptom which happens to be most prominent.

There is another source of poisoning which frequently leads to the development of bronchitis, particularly in infants, and that is the presence of putrid feces in the gastro-intestinal tract. Some years ago, Sevestre of Paris, called attention to a class of cases of broncho-pneumonia, accompanied by fetid diarrhea. He believed that the pneumonia was secondary to an infection, originating in the bowel contents. Quite recently these views have received a striking confirmation at the hands of his pupil, Le Sage, who in a number of these cases found after death, the bacillus coli communis in the pneumonic tissue. It is pretty well established that this microorganism, innocent enough so long as it remains in its normal habitat, the bowel, acquires virulent properties when it migrates, and that when it migrates it is capable of producing quite a wide range of pathologic conditions. Two other of Sevestre's pupils, Gastou and Renard, about a year ago re-investigated the subject, but were not able to establish Le Sage's observations altogether. In some cases they found the bacillus coli communis, and in others they found the pneumococcus, or another encapsulated bacillus, or a streptococcus. At times, several of these in one case.

These observations show quite conclusively that the bowel may be the starting point for an infection which leads to the development of broncho-pneumonia. Exact researches have not been made in this direction with reference to bronchitis, but it is far from uncommon to find severe bronchitis accompanied by a fetid diarrhea, and to find that emptying the bowel is followed by a marked improvement in the bronchitis. There is much reason to believe that, in infants particularly, the bowel is often the source of a poison which when absorbed produces bronchitis.

Rickets and other forms of innutrition in infants predispose very strongly to the development of bronchitis. And this is true, even when the innutrition does not present any very striking or obvious evidences of its presence. Rickets, even in its most incipient stages, often leads to the occurrence of bron-

chitis. For this reason, it is particularly desirable that the earliest manifestations of rickets should be observed. A child whose food has been for a considerable time deficient in fat or proteids, and who is restless at night, and desires to remain uncovered, and who sweats profusely about the head, has rickets. Particularly is this true if, in addition, there is delayed dentition, and laryngismus stridulus, or some other neurosis. Bronchitis occurring in such a subject, demands treatment directed to the general malnutrition rather than to the local condition. It is often said that dentition causes bronchitis, but so far as my own observation goes, dentition seems active as a cause of bronchitis, only in infants whose nutrition is below par.

Every attack of acute bronchitis leads to some enlargement of the bronchial glands. Repeated or prolonged attacks often cause a very considerable hypertrophy of these organs, particularly in those children who are predisposed to glandular enlargements, the so-called scrofulous. Broncho-adenitis once established becomes a very potent factor in the causation of subsequent attacks of bronchitis. Bronchitis occurring several times during a winter usually means that the child is the subject of enlarged bronchial glands. There is probably no other one factor in the pathology of bronchitis more important than this of broncho-adenitis. Often these enlarged lymphatics become the seat of tuberculosis, which fortunately only rarely terminates in pulmonary phthisis. Not infrequently, however, these glands remain enlarged, and resist purely medical treatment quite strongly, and require for their complete cure a removal to the seashore. Such cases are not infrequently mistaken for pulmonary tuberculosis.

Chronic bronchitis, which is rather uncommon in the child, acts in much the same way as broncho-adenitis, as a cause for new attacks of acute bronchitis.

What is the influence of cold and dampness in the causation of bronchitis? That they have some influence can hardly be doubted, because of the relatively large number of cases of bronchitis which occur in the cold and wet seasons. But that they have the over-weening importance so commonly ascribed to them, is more than doubtful. That they do not always produce bronchitis indicates that some other factor is necessary to complete their operation, and this other factor is probably to be found in broncho-adenitis, or some form of malnutrition.

Other causes of bronchitis, such as inhaled irritants, obstructive heart lesions, Bright's disease, etc., we will not discuss.

The following conclusions are offered:

1. Bronchitis arises from a wide variety of causes.

2. The great variety of causes giving rise to this condition indicates that it is probably always secondary and never primary, and should be considered as a symptom, rather than a disease.

3. The principal causes of bronchitis in infants and children are the poisons of the acute infectious fevers, intestinal poisoning or infection, malnutrition, and broncho-adenitis.

4. The diagnosis of bronchitis should include a diagnosis of the causative factors so far as possible.

5. The treatment of bronchitis should include not only attention to the local conditions, but also the amelioration or removal of the causative factors.

THE PATHOLOGY AND SYMPTOMATOLOGY OF ACUTE BRONCHITIS AND BRONCHO-PNEUMONIA.

Read in the Section on Diseases of Children, at the Forty-fourth Annual Meeting of the American Medical Association.

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ACUTE BRONCHITIS.

Pathology.—The late Dr. Flint sums up the pathology in four lines. Although brief it covers the ground, and I can not do better than reproduce it: "Acute ordinary bronchitis is an inflammation affecting a mucous structure, leading to a secretion of mucus and the production of muco-pus in greater or less abundance. Resolution takes place in this situation without the occurrence of ulcerations. It belongs among the asymmetrical diseases."

Symptoms.—The symptoms of bronchitis differ much in degree, from a slight cough and indisposition barely noticeable, to the severe attacks denominated capillary bronchitis, from which few ever recover.

In young babies and children under five, the disease usually commences with coryza, or in common parlance, "a cold in the head." This is not invariably the rule, however, for we sometimes notice abrupt seizures similar to attacks of pneumonia or croup. In addition to the usual symptoms of coryza, such as wheezing, defluxion from the nostrils, etc., there is a dry, harsh paroxysmal cough sufficient to prevent the child from sleeping in many cases. The respiration is somewhat accelerated, and nursing babies are made very cross and fretful when attempting to nurse, from the inability to breathe readily through the nose. They are obliged to let go of the nipple from time to time, to take a breath, and then resume their meal. The amount of fever in these mild cases is slight; the temperature perhaps will not rise above 99 degrees. The pulse is more affected, and from the increased frequency of respiration and the nervousness and excitement consequent upon the disorder the pulse may run up to 120 or 130. In the more severe cases the child is plainly sick. It wants to be rocked or carried, continually cries and worries at the approach of strangers and refuses to play or be amused in any way. The fever in these cases is considerable, but must not be estimated by the rapidity of the pulse, which is usually 160, and often as high as 200 to the minute. The temperature, which alone is to be relied on in these cases as to the severity of the febrile process, usually reaches 103 degrees F., in simple uncomplicated bronchitis. A fair average would be 101 degrees to 102 degrees.

The skin is dry, hot, and burning to the touch, and the cheeks are flushed. The respiration is very rapid. The cough is dry, harsh and persistent, and after a time somewhat painful. The expectoration—which in babies is a misnomer—is scanty and consists of a little viscid mucus which is swallowed the moment it is coughed up. The tightness persists for some days unless appropriate treatment be instituted, and is a source of much annoyance and suffering. Mild attacks may terminate in a week, but when at all severe the disease is apt to last longer; that is, the principal symptom, which is the cough.

In older children we observe some deviation from the description given above. A child of six or eight is able to expectorate and to describe his feelings. There

is no expectoration at first, but after a day or two, especially if treatment has been instituted early, the cough loosens and the phlegm is raised with little effort. The child complains at first of tightness and constriction across the chest, with a scraping sensation beneath the sternum on coughing. There is also more or less laryngitis present, with pharyngitis of a mild grade in many cases. This gives rise to a sense of tickling in the throat which provokes a desire to cough almost constantly where the local irritation is pronounced.

Many cases of bronchitis in children of this age begin as laryngitis and extend down by continuity of structure. The fever is not so high with older children, nor is the respiration so rapid. After the cough has lasted several days, most children who are old enough to talk will tell us that they have pain in the stomach—the result of traction on the diaphragm from the persistent coughing.

BRONCHO-PNEUMONIA.

Pathology.—This disease is known by many names. By some writers it is termed capillary bronchitis, a most unfortunate designation. By others it is called lobular pneumonia or catarrhal pneumonia. The result has been to utterly confuse the minds of students, and many practitioners have only a vague conception of the actual pathologic condition.

Catarrhal pneumonia is not like croupous pneumonia, a distinct and independent disease clinically, but in the great majority of cases it is a secondary phenomenon, which may develop in the course of acute and chronic diseases of various kinds. It almost always follows bronchitis. The same process which produces catarrh of the bronchial mucous membrane, in its further course invades the bronchioles and the alveoli, and here leads to catarrhal pneumonia. (Strumpell.) Measles, in my opinion, has been given undue prominence as a factor in the causation of this disease. Bronchitis from whatever cause, measles, whooping-cough, or the simple variety, is the starting point in most cases.

The ball-valve theory, where a plug of viscid mucus acts as the valve, has been accepted by many writers to explain the occurrence of collapse or atelectasis. Others believe that pus is sucked into the alveoli by the labored respiration. Dr. Morrill[1] thus tersely sums up the matter: there is inflammation of the bronchial mucous membrane, which involves the walls of the smaller tubes and the surrounding connective tissue by direct extension, and the bronchioles, alveolar passages and air-cells, either by direct extension or by the migration of inflammatory material. Moreover, this material may occasion collapse of groups of vesicles, an accident in the causation of which feeble respiratory power and narrowing of the lumen of the smaller tubes materially assist.

Symptoms.—As has been already mentioned, broncho-pneumonia almost always develops secondarily in the course of other diseases. Hence it happens that its symptoms are often subordinate to other prominent symptoms of the disease. When broncho-pneumonia follows an attack of measles, it begins with the symptoms of an acute bronchitis. The inflammation advances rapidly and involves the pulmonary tissues. On the other hand, when the disease supervenes in cases of whooping-cough, its advent is slow and insidious, and is usually accompanied by a decrease of the paroxysms. When it occurs as a distinct disease by itself, however, the length of time during which it may be preceded by acute bronchitis, without any rational or physical signs of consolidation, is extremely variable. Morrill gives the extremes as five and twenty-eight days.

The extension of the disease to the lung tissue proper, manifests itself by increase of fever, dyspnea, and a change in the character of the cough, which becomes short, painful, hacking, and as a rule much more frequent. The child is no longer able to rid its lungs of the steadily accumulating secretions. The respiration increases in frequency and the face assumes an anxious, frightened expression. It makes no attempt to talk as a rule, instinctively realizing that it has no breath to spare for that purpose. Young children do not expectorate, but during a violent coughing spell viscid and frothy mucus frequently escapes from the mouth and then is seen to differ from the typical sputa of lobar pneumonia. As fresh areas of lung become involved, paroxysms of dyspnea occur and all the symptoms increase in severity. When extensive collapse takes place, the dyspnea increases, the temperature falls, the cough ceases, and the child rapidly sinks into a comatose condition. At the same time the face becomes livid, the skin cold and clammy and death usually follows in a few hours. This disease has no regular march of invasion. Its forces scatter and attack different areas of the lungs.

The morbid process is complex, and absorption of the products of inflammation, as a rule, is so slow that it is extremely difficult to define the stage of resolution. (Morrill.) The pulse is extremely rapid from the beginning of the attack, and continues so for some time after the decline of the temperature. This is usually explained as being due to the weakness of the patient. As is well known, the pulse varies greatly in sick children, and writers differ as to what constitutes an average rate for this disease. As a rule, I think they place it too low. There are few cases of true broncho-pneumonia in young children where it will be less than 150, and more where it will be nearer 200. Morrill says that the latter number (200) has been observed more than once in cases terminating favorably. I have recently had an opportunity to corroborate the truth of this statement. The respiration also varies greatly, and what has just been said with regard to the pulse rate applies with equal or even greater force to the breathing. Excitement from any cause, however slight, will immediately affect the rate and rhythm. When the disease is fully established, the respiration becomes very rapid, often reaching 80 per minute, and I have seen it even higher. Expiration is often jerky or grunting. Sometimes the child makes a moaning sound. Morrill tells us that the breathing of young children in broncho-pneumonia is no longer abdominal; the ribs rise and fall as in adults. Osler[2] states that death occurs from heart paralysis, but I believe with Morrill that "death in broncho-pneumonia results more frequently from respiratory than from heart failure." The temperature varies with the other symptoms. It will average 104 degrees to 105 degrees F., during the acute stage of severe cases. It has been known to reach 107 degrees F., and yet recovery follow. A remission of three or four degrees in the morning is usually observed, but the fever is

[1] Keating's Cyclopedia.

[2] Practice of Medicine.

very irregular and often the morning temperature will be higher than the evening, but this does not continue for any length of time. There is no regular ratio between the pulse, the temperature and the respiration.

According to Morrill, a favorable result in broncho-pneumonia is never immediately preceded by an abrupt decline in the temperature. This phenomenon when present means collapse, and is of the gravest import. The tongue is usually coated more or less in the early stage but is not invariably so; it sometimes looks red and raw. In the later stages, the tongue becomes dry and sore. Complete loss of appetite is the rule from the beginning of the acute symptoms. Thirst is present in most cases but sometimes is less than might be expected from the severity of the fever. On auscultation during the early stages of broncho-pneumonia, râles of all sorts and sizes may be heard, but at a later period there are persistent sub-crepitant râles in one or more spots. The course of an extensive broncho-pneumonia is usually quite protracted. Even in favorable cases the disease rarely lasts less than two or three weeks, and often much longer.

SOME PHASES OF BRONCHO-PNEUMONIA IN CHILDREN.

Read in the Section on Diseases of Children, at the Forty-fourth Annual Meeting of the American Medical Association.

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In France, England and the United States of America, broncho-pneumonia is usually reported in mortality tables as catarrhal pneumonia, capillary bronchitis or congestion of the lungs, and in a study of statistics this should be borne in mind and these terms included under the designation, broncho-pneumonia, at least until greater harmony in terminology prevails. It may sometimes be mistaken for acute bronchitis or pneumonia. That these mistakes are made is evidence of two things: 1, a possible carelessness in diagnosis; and 2, some confusion as to the precise pathologic condition termed broncho-pneumonia. It is certainly confusing to read some of the definitions given of this disease. If one is to understand the obstruction of a small bronchial tube and the resulting inflammation about it to be the special condition in broncho-pneumonia, then the autopsy would usually have to determine the diagnosis. If an inflammation of the connective tissue of the walls of the minute bronchioles is the chief element in broncho-pneumonia, the diagnosis will always be difficult. If broncho-pneumonia is a disease involving inflammation of both the bronchial tubes and lung tissue, a diagnosis can almost always readily be made. It is in this sense that I use the term. A broncho-pneumonia may originate in a simple catarrhal inflammation of the mucous membrane lining the bronchial tubes; this morbid condition may extend to the deeper tissues, and eventually involve the lung tissue.

It often happens that the thickening and induration of the walls of the minute bronchial tubes close the lumen of the passages and a portion of lung is destroyed, the vessels to the part may become obstructed and degeneration result.

The catarrhal origin and the involvement of the lung tissue are more easily discerned than the obstruction of vessels or the degeneration of a small area of lung substance. If, however, there are a number of air vesicles occluded, and an appreciable area of lung substance involved, a diagnosis may easily be made.

I desire in this place to call especial attention to a class of cases which may be followed by serious results, but for which the physician is usually not consulted at the proper time. I refer to common colds. It may not infrequently happen that an acute catarrhal cold involving the nose and throat persists, and the inflammation extends into the bronchi and thence to the air vesicles and lungs, and an acute broncho-pneumonia is excited before the patient considers it necessary to call a physician. This class of cases will be met with most frequently in children, but may often be encountered among adults likewise. Such a cold frequently subsides without the interference of medication, and that common fact leads people to be careless in regard to such ailments. This undoubtedly is one of the casual factors of the high mortality of cases which come under the observation of physicians. Even those cases which do not die at once, frequently are the subject of lesions which eventuate fatally. To illustrate my statement I will refer briefly to two cases occurring in children and two in adults:

Case 1.—Robert D., 6 years old, had suffered with two or three hard colds during the fall and winter. January 30 I was called to see him. I was told that he had been sick for a week, and that I was called because his cold did not yield to the domestic remedies which had previously been sufficient. The tonsils were swollen and red, with small deposits of yellowish-white exudate. Bronchitis was marked and the inflammation had already involved the air vesicles and lung tissue. The respirations were somewhat labored. Bronchial râles were abundant. Respiratory sounds subdued and interrupted in both lungs. Percussion revealed slight dullness over left lung; right slightly, if at all modified. Pulse 125, temperature 103.5 degrees. Next day patient was slightly better and improved until the sixth of February when he was dismissed cured. The sputum was not seen in this case, but in the following it was stained with blood.

Case 2.—Zadie S., 8 years old, had spent the winter in the South with her parents. Upon returning home she contracted a severe cold. Had catarrh of the nose and throat and a cough. Medicine was secured "to break up" the cold, but she gradually grew worse until after a week it was found necessary to call a physician. When I saw her she had catarrhal sore throat and some bronchial râles with a persistent and severe cough. I was informed that for several days she had been ailing with what seemed to be only an ordinary cold. Percussion sounds normal. Auscultation revealed nothing beyond a bilateral bronchitis with a tendency to involvement of the small bronchi and in a few instances the air cells. Pulse 120, temperature 102 degrees. The symptoms increased in severity for a week, the temperature gradually rising to 104.6 degrees, and the pulse to 140. Percussion revealed small areas of dullness in the middle third of both lungs, but chiefly in the left. The respiratory sounds were modified, presenting bronchial râles, vesicular crepitation, dyspnea; some distress was complained of in the stomach. No other pain was present. The symptoms began to subside in eight days and at the end of another week she was dismissed, the lungs being clear and respiration normal. The third case was an adult.

Case 3.—Mrs. E., was in usually good health, had always been well, having never needed to consult a physician, except for sore throat from which she suffered at times. At the time of her exposure she was in a severe snow-storm and became thoroughly chilled. For several days she suffered from a severe catarrhal cold of the nose, throat and bronchial tubes. Soon however, she felt quite well and resumed her ordinary household duties. The first exposure occurred at Christmas time. Another exposure occurred in one

month. The cold was more severe. I made an examination of the patient and found her to be suffering from a well-defined case of broncho-pneumonia. Careful nursing and the usual treatment for ten days restored her to comparatively good health, but a slight yet persistent cough remained. Upon my advice she did not resume all her household duties and exercised greater care in guarding against exposures. Notwithstanding every precaution, in about eight weeks, that is in the latter part of March, another attack supervened. This time the patient was in bed two weeks. The characteristics of broncho-pneumonia were well marked and later, hepatization of the lower lobe of the right lung occurred. A rusty or sanguineous sputum, which had not been present in previous illnesses, was expectorated for a week. The disease was bilateral, the chief obstruction to respiration existing in the upper portion of the left lung and the lower portion of the right lung. This seizure was more obstinate than any preceding. The patient rallied slowly, and a well-defined interstitial inflammation remained, in a comparatively active state, involving the lower lobes of both lungs. The pulse remained at 90 to 100, and the temperature at 100 degrees to 101 degrees. The cough was persistent and the expectoration and dyspnea troublesome. The microscope showed an abundance of bacilli tuberculosis. From this time the case progressed gradually downward, with seldom a temporary rally, until death occurred just two years and six months from the first exposure. An uncle and an aunt of this patient are said to have died of consumption.

Case 4.—The last case I wish to report is now under observation (June, 1893). She has been subject to catarrhal colds for several years. Last autumn she was living with a married sister, and the sickness of one of the children caused her to overwork. Later, she contracted a cold from which she recovered slowly. She returned home in the early winter and felt quite well, but had a slight cough until February. The latter part of that month she contracted a cold which was very obstinate. March 1, 1893, I was called to see her and found a well-defined case of broncho-pneumonia. I learned that she had suffered in the first place from a catarrhal cold, involving the nose and throat. She recovered after a week, but a persistent cough remained. In a few weeks she called at my office and I found an interstitial inflammation of the lungs involving the lower and middle thirds of both lungs. Both nasal and laryngeal catarrh were present, and she suffered considerable from dyspnea. Pulse 80, temperature 99. The microscope showed many micrococci but no bacilli tuberculosis in the sputum.

These four cases have been related to show the difference in the prognosis usually in adults and children. In children, the temperature may run higher, the symptoms be more acute, but the prognosis is more favorable, especially after five years.

Of the last 1,000 cases of all diseases that have come under my observation, 221 were cases of lung disease and of these 20 were cases of broncho-pneumonia. One was in an old lady who died. Four in adults between 28 and 37, one of whom died and another is the fourth case related above; the other two have a persistent cough with a doubtful prognosis. Fifteen were in children from two and a half to eleven years. One, the subject of whooping cough, was two and a half years old and died. The others all recovered, of whom only two were considered dangerously sick.

I refer to this experience to illustrate four facts which I believe to prevail in reference to the etiology and prognosis of broncho-pneumonia:

1. Old people almost always succumb to an attack of broncho-pneumonia.

2. Young adults are likely to recover slowly or develop phthisis.

3. Children over five years generally recover.

4. Children under five years show a heavy mortality.

Another fact which may be reiterated here for the purpose of making it more emphatic is: Many cases of broncho-pneumonia are so slight as to be allowed to pass without consulting a physician. It may be affirmed with probability that many cases of severe catarrhal colds in children, which come under the care of physicians and are treated merely as severe colds, would upon careful examination, be found to be cases of mild broncho-pneumonia.

It is known that the rusty sputa, commonly supposed at one time to be pathognomonic of pneumonia, may be present in severe cases of bronchitis and broncho-pneumonia. Hence great care is often necessary to prevent a confused diagnosis.

Any physician may be troubled to make a correct diagnosis in many obscure cases, and it requires a very accurate ear to be positive without the aid of instruments.

The limited area of dullness on percussion, the slight disturbance of the respiratory murmur, except by bronchial sounds, the slight change in vocal fremitus and bronchophony all aid in determining the character of the disease.

The treatment of mild cases is simple enough. A jacket of cotton batting should cover the chest. Some stimulating liniment, turpentine, or camphorated oil applied twice or thrice a day will assist in making the patient comfortable. Soothing and anodyne cough mixtures, inhalations of medicated steam or sprays, and rest in bed will serve to restore the patient to health, in the majority of cases, in a few days. If the case is prolonged, or if there is a tendency to recurrence, as in the two cases reported which occurred in adults, a sustaining and general tonic treatment must be prescribed; viz: concentrated food, malt, cod liver oil, hypophosphites and iron. I have felt that the use of aromatic sulphuric acid, boric acid and salicylic acid and creasote internally have given me excellent results.

PNEUMONIA—PATHOLOGY AND SYMPTOMATOLOGY.

Read in the Section on Diseases of Children at the Forty-fourth Annual Meeting of the American Medical Association.

BY F. S. CHURCHILL, M.D.
CHICAGO.

Croupous pneumonia, in the child as in the adult, may be defined as an acute, infectious self-limited disease, having its chief pathologic manifestations in the lungs. In this paper the writer proposes to discuss some of the points in the pathology and symptomatology of the disease.

A.—PATHOLOGY.

A clear comprehension of the pathology of the subject necessitates a brief glance at the child's lung in its normal condition. Here, the chief points of difference from the adult lung are as follows: the bronchial tubes are larger, the alveoli smaller, proportionally, than in the adult; the inter-alveolar spaces are more extensive, and more richly supplied with blood vessels; also in the alveolar walls, the blood vessels are seen to be larger and more tortuous, giving to the organ the appearance of the lung of obstructive cardiac diseases. These are the main points of difference between the adult and child lung. Obviously, a slight temporary congestion of the pulmonary vessels could easily give rise to some of the physical signs obtained in croupous pneumonia, e. g., dullness, bronchial respiration and even bronchophony. In such case we might be led astray and think we were dealing with a pneumonia; but

time and the course of the disease will clear up any doubts we may have. The writer recently saw what he believes to be such a case, occurring in the practice of Dr. Christopher, during the latter's temporary absence, by whose courtesy he is allowed to refer to it:

A boy, 8 months old, was passing three to five loose, greenish foul-smelling stools daily, when he suddenly developed a rather rapid respiration (60), with a high temperature. Examination of the chest showed at lower angle of left scapula a small area of rather high-pitched respiration, with numerous fine and coarse moist râles, both right and left, especially left; no dullness. Next day and the following, there was distinct dullness, increased vocal fremitus, bronchial respiration and bronchophony, with continued rapidity of respiration. The writer was in doubt as to whether he was dealing with a pneumonia or a temporary congestion of the pulmonary capillaries, but was inclined towards the latter view, his opinion being based on the following facts: absence of the crepitant râle, the significance of which we shall mention later; absence of pain, the continued crying and struggling of the child on examination, the absence of dyspnea and cyanosis, for though breathing rapidly, the patient was not distressed for breath—was not "oxygen-hungry"—and most of all, the course of the temperature-curve. With the belief that the main trouble was in the intestinal tract, and inclining to the view that the pulmonary lesion was an inflammation of the smaller tubes and even of the alveoli, *secondary* to the bowel trouble, the infant was given large rectal enemata of water at 90 degrees F., each one of which was followed by a decided drop in temperature within one hour; had there been a pneumonia, the temperature would probably not have been so influenced. Within a few days the physical signs noted in the chest disappeared entirely, and there was nothing in the history of the case suggestive of crisis. There is now no doubt in the mind of the writer that he had to do with a temporary congestion of the pulmonary capillaries, secondary to the intestinal lesion, and giving rise to physical signs, identical with those obtained in genuine croupous pneumonia. Finding such signs we ought, it seems to me, always to bear in mind the possibility of such a temporary lesion, reserving our diagnosis and awaiting the further progress of the case. This from the clinical standpoint; pathologically, we should of course, have more positive evidence to guide us.

The pneumonic lung of the child has not the distension nor solidity observed in that of the adult; it is denser and darker colored than normal and of a bluish-violet or leaden-tint. On section, the surface is comparatively smooth, the granular appearance seen in adults and caused by the filling of the air vesicles with the inflammatory exudation, being much less marked and sometimes even absent owing, (according to Fox, Atlas Pathological Anatomy, p. 17), to the small size of the vesicles. As is well-known, the three stages of engorgement, red and gray hepatization, are observed in the child, but are more apt to coëxist than in the adult; instead of resolution, it is not uncommon to find abscess following the third stage, and thus we may even see the three stages and abscess coëxisting; these abscesses may be multilocular, each division being separated from its neighbor by a wall of hepatized tissue; they are apt to be found near the surface of the lung and, in such cases we, of course, are apt to find coincident adhesive pleurisy. Here the abscess may break into the pleural sac and give rise to a hyo-pneumo-thorax; one or two such cases have been reported (Meigs and Pepper, Barthez and Rilliet). During his service as hospital interne, the writer saw such a case in an adult, the diagnosis being confirmed by autopsy.

Microscopically.—The appearance of the pneumonic lung in the child, is much the same as in the adult: in the first stage the blood vessels of the alveoli are seen protruding into the lumen, and already there has begun the exudation of a viscid fluid and red and white corpuscles; in the second stage, this exudation continues, but in greater quantity; usually the exudate is fibrinous, rather than cellular in character, but entangled in the meshes of the fibrin, we see numerous red and white corpuscles; in the third stage, the exudation has begun to liquify and is more purulent in character. VonJaksch (Arbieten Pediatrische-Henoch, Fest. 1890) has also observed in microscopic preparations, immense numbers of diplococci, which, in their morphologic appearance, resembled very closely the pneumonia microbes described by Fränkel; they appeared to cluster most thickly in the alveoli, and, in the opinion of Von Jaksch, emphasize the observation made by many that the microörganisms described by Fränkel, stand in the closest relation to pneumonia. Banti also (*Centralbl. f. Bakteriol.*, IX-5), in his analysis of forty-seven cases, notes the almost invariable presence of the diplococcus lanceolatus, not only in the lungs and pleuræ, but also in the blood; and states that variations in the intensity of the disease depend on the degree of virulence of the microbe.

Locality.—Well-known facts as to the locality of pneumonia are: its tendency to affect the lower, rather than the upper lobes; its occurrence on the right more frequently than on the left and also the occasional existence of a central patch, surrounded by healthy lung tissue, often causing much doubt as to diagnosis. Henoch (Sect. Dis. Children) says we may see a "mixed form" of pneumonia, i. e., patches of a croupous nature occurring in the same lung, with those of broncho-pneumonia, and in this connection quotes Steffen (Klinik der Kinderkrankh, i S. 146) Steiner and Damaschino (Paris, 1867) and Virchow.

B.—SYMPTOMATOLOGY.

The diagnosis of croupous pneumonia in adults is usually a comparatively easy matter, so generally do we see the classical picture of sudden onset, with chill, stabbing pain in the side, suppressed cough and "rusty sputum." But in children we are by no means so apt to find this complex of symptoms, and the diagnosis is often very difficult, even impossible at the first visit, when one is apt to get such a history as the following: the child has been taken suddenly ill, or there may have been premonitory symptoms for a few hours; rarely do we see the rigor so common in adults, though Latimer says (Archiv. Ped., Nov. '91) it is usually present, and Henoch (Vorlesungen über Krankheiten, S. 330, 1881) has occasionally observed one in children over five years old; rather is the nervous disturbance apt to manifest itself by vomiting or convulsions—the latter more especially in infants, and they are sometimes followed by active delirium, general hyperesthesia or

by stupor, with slight opisthotonos and retraction of the abdomen; pain, if complained of, usually located at the epigastrium; headache is also common. Thus, at the very outset we may have our attention directed either to the head or abdomen, rather than the thorax, as the seat of the trouble—and having any one or all of these symptoms suddenly developing with a rise of temperature, we should bear constantly in mind the possibility of a beginning croupous pneumonia, and proceed to a thorough physical examination of the child.

1.—Inspection. Patient usually found lying on bed or on mother's lap, breathing rapidly, often with expiratory "grunt;" face flushed, sometimes more on one side than on the other; dilatation of the "alæ nasi," is often noticeable and may be the earliest sign suggestive of intra-thoracic trouble. The general expression of the face is one of pain though the child usually does not cry nor resist examination, doubtless on account of pain from coëxisting pleurisy; for the same reason cough, if present, is apt to be suppressed; rarely expectoration, except in older children, but we should carefully examine the vomitus for any sign of "rusty sputum," which very likely has been swallowed, after being coughed up. Inspection of the chest is very apt to show the affected side lagging in respiration.

2.—Palpation. Vocal fremitus may be increased, or a peculiar thrill may be imparted to the hand or respiration.

3.—Auscultation, may give rise to the typical sign of bronchial respiration, moist râles, and bronchophony; rarely do we hear the crepitant râle in children under three years of age; if heard it is, according to Dr. J. L. Smith, proof positive of the presence of pneumonia; its usual absence is due to the small size of the alveoli.

4.—Percussion, which should be practiced last, in the physical examination of the chest, may reveal dullness, or, as is more commonly the case, there is, to the finger, a greater sense of resistance over the affected area. Here we shall, of course, remember the fact that the liver may be forced up by the crying of the child and thus give rise to dullness at the right base.

The above might be regarded as the classical picture of a croupous pneumonia, but unfortunately we too often fail to find the group of symptoms—one or many of the characteristic signs may be entirely lacking; e. g., physical signs in the lungs may be entirely absent at first, not developing till later, in two to seven days, or in a few cases which have been reported, never appearing. (Townsend Archiv. Ped., April, 1889, who also gives D'Espine, Rev. de Med., February, 1888.) Such cases are not rare, though often are not detected. Here we have to do with a "central pneumonia," i. e., a patch of consolidation in the interior of the lung, so surrounded by healthy lung tissue that we fail to detect any abnormal signs on examination of the chest, and the diagnosis must rest on other symptoms. But sometimes we can detect deep-seated consolidation by deep percussion, when we may also obtain the sense of resistance spoken of above. Repeated and thorough exploration of the chest should be made daily, and sooner or later we shall probably detect the characteristic signs, except of course in the few cases where the pneumonic process continues central. As the writer has in several cases found characteristic signs only high in the axilla, he ventures to emphasize the importance of careful exploration of the chest with the stethoscope—though this last point is of course well known and mentioned by all the authorities.

Cerebral Symptoms, varying in intensity from restlessness to severe convulsions, are very common, but contrary to the prevailing opinion, they do not seem to be especially associated with apical pneumonia as observed by Holt (Med. Rec. Apr. 7, 1888); Minot (Keating's Encyclo.); Eustace Smith (Dis. of Children); Townsend (Archiv. Ped. March, 1889), and others, yet, in this connection, may be mentioned two interesting cases reported by Aufrecht (Archiv. Ped., Oct. 1890), in which pneumonia of the right and left apices was followed by right and left hemiplegia respectively, both recovering. Speculation as to the cause of these complications is of interest; probably either an edema of brain and meninges; or a meningitis of infectious origin, secondary to the pulmonary lesion.

A certain degree of cyanosis is usually observed in croupous pneumonia, but seldom to the extent seen in broncho-pneumonia. Von Jaksch (loc. cit.) has, however, observed two cases, already referred to in this paper, in which there was a very marked degree of cyanosis, steadily increasing till death; but here, this symptom was due to the presence of a pericardial effusion, which, however, manifested absolutely no other suggestive sign till one day before death, though careful exploration of the chest had been daily made. Von Jaksch concludes from these two cases that increasing cyanosis in pneumonia, even with no other sign of pericardial effusion, should warn the medical attendant that this complication is imminent and the prognosis, consequently, more grave.

The same author also reports (loc. cit.) the existence of a considerable degree of leucocytosis, (1:40, 60 or 70) even being observed; it is of course temporary, and, occurring early in the disease, may be of value in determining the diagnosis; moreover the observation could be easily made, for, occurring in such a marked degree, a blood count would not be necessary, microscopic examination of the blood alone being sufficient to show a very great increase in the number of white corpuscles. In these cases the hemoglobin is also much diminished.

The range of temperature varies in different cases, from 102–103 degrees in moderate cases, up to 106–107 degrees, in the more serious; very apt to be a slight morning fall, but occasionally is seen the so-called "inversion of the thermic curve" (Townsend loc. cit.), i. e., morning temperature higher than the evening. A continued temperature of over 105 degrees is serious.

The pulse and respiration are more rapid than normal, especially the latter; and this disproportion between respiration and pulse is 1:2 or 2.5, instead of 1:4, the normal, may be of diagnostic value; cases have been reported in which the respiration reached 104 (Edwards—Archiv. Ped. March, 1892.) and even 127 (Hirsh, Annals of Gyn. and Pediatry, December, 1890); the former died, the latter recovered.

The end, like the beginning of croupous pneumonia, is apt to vary somewhat from the same stage in adults; the proportion of cases ending by crisis is greater than in adults; also physical signs are more apt to persist after crisis in children, and may continue for weeks, or even months. Such cases of

course give rise to considerable anxiety, especially for those with a tuberculous heredity; the prognosis, however, is not necessarily unfavorable and in the course of time all the signs may disappear and the patient completely regain his perfect state of health.

In conclusion, it may be said that croupous pneumonia in children differs from that of adults, clinically more than pathologically, that its diagnosis is often very difficult; its symptoms varied, and, as a rule, less well marked than in adults; the physical signs often appearing late, occasionally not at all; its course generally favorable in strong children; and, finally, that, though in obscure cases we should make repeated and thorough daily examinations of the chest, our diagnosis must be made from the history and general clinical picture, and not be dependent entirely on the results of careful explorations of the chest.

THE THERAPEUTICS OF BRONCHITIS.

Read in the Section on Diseases of Children at the Forty-fourth Annual Meeting of the American Medical Association.

BY I. N. LOVE M.D.

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Some observers have taken the position that bronchitis is due to a special germ; its port of entry being the air passages, and that the resulting disturbance is but an incident. The majority of us, I believe, will admit, however, that bronchitis as a rule is occasioned by simply "taking cold." The conditions favorable are constipated habit, improper diet, disturbed digestion, perverted secretions and exposure to cold, resulting in the chilling of the surfaces. As a consequence of this combination, we may have bronchitis or, in fact, a catarrhal condition of any one or all of the mucous membranes of the body. Were it not a bronchitis it might be a laryngitis, a rhinitis, a gastritis, an enteritis, a nephritis, a cystitis, or in fact we might have all of them combined in the same case. If in any marked degree, we would not have our case long.

However many germs there may be floating in the medium which surrounds us, the conditions just mentioned are ample in themselves to produce serious disease, and in my judgment are the direct cause in most instances. Possibly, were it not for the condition of the system developed which I have just mentioned, the human organism might be able to resist the attacks of most germs; at all events, these conditions furnish a standing invitation to any and all germs, whether they be the Klebs-Löffler bacillus, the germ of Freidlander, Eberth or others which have not yet been named.

In the therapeutics of bronchitis we must bear in mind that the cause in the majority of instances has been chilling of the surfaces, a disturbance of the circulation, a stasis in various parts of the body, chiefly in the bronchial mucous membranes. We must not ignore the general torpor of the glandular outfit. Having interrogated all the vital organs and investigated every point, in the majority of instances we can safely purge our patient. We should not be satisfied with the statement given by the attendant that the bowels were moved to-day or yesterday well. Even though a diarrhea be present, as it frequently is, produced by the same causes as produced the bronchitis, we are safe in flushing out the alimentary canal—clearing the decks for action. Fermentative material, irritative matters and accumulated ptomaines will thus be gotten rid of, and to this end a reasonably brisk calomel purge, followed by castor oil or something pleasanter, solution of citrate of magnesia, etc., will be in order; and by the way, added to the castor oil or in conjunction with the purgative, ten or fifteen-drop doses of oil of turpentine on a lump of sugar may well be given every two or three hours. It is one of the best stimulators of the glandular system that we have. It is a sweetener of the alimentary canal. It is almost an ideal remedy in bronchitis and pneumonia, and in this connection, I would suggest that cloths wet in turpentine from time to time may be placed in position for evaporation near to the patient. The remedies which we have given for the clearing out of the bowels, together with the turpentine, also serve to stimulate secretion upon the part of the mucous glands of the air passages and favor expectoration. In our treatment, however, this thought should be followed up, and to this end nothing is better than the benzoate of soda given in doses ranging from ten grains to a drachm, well diluted, every hour according to the age of the patient.

Local applications to the chest, such as turpentine stupes and camphorated oil, together with a dry poultice made by covering the chest with oiled silk; upon the outside of this, a layer of cotton batting—the whole held snugly in place by a tightly, well adjusted flannel bandage. The bandage properly applied to the chest is of great value in bronchitis and pneumonia, serving to support the often over-taxed chest muscles, acting as does a splint to a broken leg.

In the initiatory stage of the attack of bronchitis, the temperature must be watched. If very high, some one of the antipyretics should be given in a stimulating menstruum to reduce the temperature within proper limits. I am not of those who believe that fever is conservative and physiologic and may be ignored, no matter what its cause may be. Too high a temperature is dangerous, whether the patient have typhoid fever, pneumonia or bronchitis. A temperature of 105 degrees in a case of bronchitis should be reduced the same as in other conditions because the nerve centers are in danger. We need not disturb ourselves about a temperature which is not higher than 102 degrees, although it should be carefully guarded.

We must bear in mind that in bronchitis in children, however limited the surface involved, we may soon have a very pronounced aggravation of our case; extensive inflammation by continuity of surface, even to the point of a capillary bronchitis or one step further, to a catarrhal pneumonia. It should be our effort to encourage secretion on the part of the inflamed mucous surface, and expectoration. In children, particularly in infants, here is our chief difficulty; their inability to expectorate. A very slight cold with the resulting bronchial catarrh in a babe, is a serious, dangerous condition, and that which in one older would be simple and readily thrown off may soon result fatally. The mucus secreted is retained. The inflammation extends downward into the smaller bronchial tubes; retention goes on and our little one practically drowns from within. A free emetic will often save a life. Indeed prompt measures are essential to the proper management of bronchitis in children, and in fact this should be the

rule in adults also, for no doubt the sensitive mucous membrane present in a light case of bronchitis, invites the germs of pneumonia, diphtheria and other diseases.

Stimulation at the proper time is important, and I often give to good advantage, one or two teaspoonfuls of equal parts of whisky, glycerin, Forbes' diastase and honey.

Another important step is the securement of rest, and bearing in mind that we must not check secretion, this must be obtained at all hazards.

In all the diseases of children, the sensitive nervous system must be kept in mind, and no word in our therapeutic vocabulary should be so prominent as *Rest*. The old-time remedy, Dover's powder, here comes in handily—one to three grains every one or two hours, as may be necessary to accomplish sleep.

We can not safely overlook the teething process, for while this is not the direct cause of bronchitis or other diseases, it is a predisposing one. In other words, the teething child's nervous system is "on edge," and it is prone to explosions in digestive apparatus as well as its respiratory system. Interrogate the gums and lance them if angry and resentful.

Malaria can never be ruled out of our medical philosophy—least of all in children; but its expression in the latter is more varied and indefinite than with adults. It is remarkable how often it is the most potent factor in a case of child's bronchitis—and in no case can we safely ignore it. Often, when all other remedies have been futile, the liberal administration of quinin will clear up a bronchial catarrh as if by magic.

After the acute stage has passed, with a view to prevent a sub-acute and chronic continuance, ten-drop doses of turpentine or one or two doses of terpin hydrate should be given every three or four hours, along with mild tonics and the most nutritious food.

In closing, I desire to lay special emphasis upon elimination, tranquilization, stimulation, nutrition and oxygenation.

THE TREATMENT OF BRONCHO-PNEUMONIA IN CHILDREN.

Read in the Section on Diseases of Children at the Forty-fourth Annual Meeting of the American Medical Association.

BY FRANK S. PARSONS, M.D.

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A comfortable room, well ventilated, and good cleanly surroundings are as essential to the successful treatment of broncho-pneumonia as any other disease.

Care should be exercised to prevent all undue exposure to sudden changes of temperature, draughts of air, etc., which will in any way increase the liability of contracting a "cold," or aggravating one when already contracted.

The child, sick with bronchial inflammation, should be clad in a warm, long nightdress made of soft flannel, or cotton flannel, and kept in the same and in bed, until the severity of the disease has passed, unless absolutely necessary to make a change for the sake of cleanliness. In the first place, in these cases of broncho-pneumonia, it is well to direct that a chest protector be made of eiderdown flannel, which is warm and thick, besides being very soft and unirritating. This can be easily made out of one piece, doubled, and cut of sufficient length to reach as far down as the level of the umbilicus all around; an opening large enough to slip over the head is made in the center of the piece, and armholes cut out to fit; then into each of the sides are sewed some bits of tape for tie-strings, so that when applied the sides can be so fastened as to completely inclose the chest.

I am of opinion that some such protector is of more value in broncho-pneumonia than all the poultices, ointments, or other applications usually made.

Whatever be the value of a poultice applied to the chest of a child with simple bronchitis, which I believe is small, it has no place in the treatment of broncho-pneumonia; indeed, I have seen them do more harm than good; unless frequently changed they become cold and clammy, and the exposure necessary to change them is an unwarranted one, which does not benefit the infant in this disease. Counter-irritants, as strong as blisters, are not to be thought of in the treatment of catarrhal affections of the bronchial tract in children. It is a harsh treatment, without any benefit to be gained above other simpler methods.

When we can see the case early enough, we often have time to confine our medications to simply the treatment of the cough, and the assistance of resolution; but when the vital powers of the child are weakened, there must be given some support to them by stimulation, previous to any attempt to treat the cough, otherwise the child may quickly succumb to over-strain of the heart.

For such stimulation, I have been in the habit of employing a mixture of one part brandy to five parts pure boiled water, preferably hot, and of this mixture half a teaspoonful is given every half hour until there is evident effect manifested on the pulse. Occasionally a drop of digitalis is added, if the case requires further stimulating support. The condition of the pulse is the best guide to the strength of the child.

In some cases, it will be necessary to combat the elevated temperature with antipyretic drugs, and of these the best results are, perhaps, obtained by the use of acetanelid or aconit. I prefer the latter in very young children, because the former is insoluble in water. It is always a good plan to be on the safe side and combine digitalis with either antipyretic.

Occasionally it may be found necessary to give an emetic, during the course of the disease, to free the stomach as well as the bronchial tubes of viscid mucus, but among the weakly there is more or less debility to be expected following an emetic, which should cause us to move with caution in its administration.

For similar reasons, a little calomel given, occasionally, to free the bowels and stomach of mucus is often beneficial.

During the course of the disease the position of the child's body should be often changed, so that the danger of hypostatic congestion will be lessened.

When a case presents that indicates an especial degree of "tightness over the chest," or suppression of cough, there is often benefit to be found in the boiling of water in the sick-room; the steam arising therefrom gives a moisture to the atmosphere which favors the expulsion of the secretion by adding to it watery elements.

I have purposely left the consideration of the treatment of the cough until the last, because of its importance. When a cough is treated by the administration of drugs there should be a definite reason for every one that enters into the composition of the prescription. Compounding a cough mixture at random, with the hope of hitting something that will stop the cough, is not only an unscientific way of treating it but one will be fortunate if he escapes doing actual harm. Stopping a cough is not a desirable thing to do; cough is nature's mode of getting rid of offending matter in the respiratory tract, and to stop it, in these catarrhal diseases of children, simply allows the accumulation of mucus in the bronchi to increase more and more, without the necessary efforts of nature to expel it.

In broncho-pneumonia we have a condition of stasis of the expulsive powers of the bronchi, due to the thickness of the mucus and the weakened condition of the muscles of the tubes, from repeated exhaustive attempts to cough up the secretion during the preëxisting bronchitis. Our first indication in treating the cough seems properly to be the stimulation of the mucous glands to increase the watery elements of the secretion, and, thus render the latter less tenacious. For this we may employ steam, by spray, or the boiling of water as previously indicated; but the drug best adapted to this purpose is ipecac in some form.

Combined with ipecac, some slight admixture of opium tends to hasten the second stage, as well as to relieve the irritability of the first; the form of opium which has, in my experience, had the most happy effect in this respect is the combination with camphor in the form of paregoric.

In all fever cases, and broncho pneumonia is no exception, there is high color and concentration of the urine, indicating more or less tax on the kidneys from congestions; therefore, I have employed the citrate of potash to encourage some mild diuretic action and increase the ease of elimination. For such reasons, I generally employ the following formula in bronchial affections of children:

R. Vini ipecac . . . . . ℥ i
Potass. citratis . . . . . ʒ ss
Tinct. opii camph . . . . . ♏ ii
Elixir simplicis . . . . . ʒ i
Aquæ distil. . . . . qs ad ℥ iv
M. Sig: A teaspoonful every two hours to an infant one month old.

The use of the simple elixir will prevent the mixture souring in warm rooms or hot weather, where often syrup vehicles will render the mixture unfit for use in a few days.

The stimulating expectorants, so-called, and especially ammonia, are useful in the later stages of this disease, after free, watery secretion has been established and all that is necessary to be accomplished is the promotion of efficient efforts at its expulsion from the bronchial tract. In the first stage they are useless. Tonics of iron are often indicated in convalescence, and good nutritious diet in older children is always useful.

SMALLPOX.—There are more cases of smallpox at this time in different parts of the country, than have been reported for many years. The continued neglect of vaccination can only have one result; that is, increase of smallpox.

THE THERAPEUTICS OF CROUPOUS PNEUMONIA.

Read in the Section on Diseases of Children at the Forty-fourth Annual Meeting of the American Medical Association.

BY JOHN A. LARRABEE, M.D.

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In an attempt to present to you for discussion, the subject which, by your too partial choice has been assigned to me, I shall endeavor to keep as nearly as possible within its limits, and with a due regard for the value of your time, I shall be as concise as possible.

It will, of course, be understood that pneumonia known as catarrhal or bronchial, which prevails to so much greater extent in infancy and childhood, but differs so widely in both etiology and treatment, shall form no part of this discussion beyond mention.

The attempt to draw an age limit around croupous pneumonia by many of the older writers has been responsible for many failures in diagnosis.

While few physicians at the present time fail to diagnosticate croupous pneumonia in the adult at some time during its progress, I must record my conviction, based upon experience, that many infants go to their graves annually, from croupous pneumonia, with death certificates signed "worms," "teething," and convulsions, and that quite as many aged persons escape diagnosis and are marked "senile debility." So much, then, for former teaching, that croupous pneumonia is a disease of vigorous adult life.

In the discussion of the therapeutics of croupous pneumonia, I recognize the importance of tabulating only those means which through a long period of time have proven valuable in the hands of the writers. The value of papers of this kind, is in direct proportion to the truthfulness of the statement therein contained, and to the careful clinical observation and experience of the author. In treatises designed for text-books, it is quite proper that all the known therapeutics, both practical and speculative, should be compiled, the endorsement of which is not made by the author and little of which has been the result of his experience.

I shall, therefore, make no attempt to enumerate the so-called remedies for this disease, however much extolled by others, nor shall I criticise those which in the experience of others have been valued. I recognize various therapeutic roads leading to the same desired terminus, and I care as little what means may be employed by others equally skilled, as I would to know with what tools a carpenter has completed my house, if he has completed it according to the plans and specifications.

Regarding pneumoniæ crouposæ as an acute, infectious disease, running a definite and limited course with a pronounced tendency to recover by natural processes alone, I might be expected to say very little concerning its therapeutics.

Notwithstanding the fact that medicines are powerless to cut short the disease, and the conviction expressed that very many will recover without any medication, few physicians possess a clientele of sufficient intelligence to risk a trial.

For this reason, as well as to favor the course of nature in repair, I constructed the following prescription, some twenty years ago, since which time I

have made it the sole treatment from the beginning to the close of the attack.

Moreover, it has been given as a part of my instruction to medical classes for nineteen years, and it is safe to say that at least a thousand practitioners have made it their chief reliance and have so expressed themselves to me by letter or person.

The indications—therapeutical—which are met by their combination are:

1. Satisfaction on the part of friends, that something is being done for the patient.

2. The satisfaction on the part of the practitioner that he is not doing harm to his patient.

3. The promotion of diuresis.

4. The promotion of diaphoresis and increased elimination of carbonic acid with reduction of temperature.

5. Increased alkalinity as shown by urine and a lessening of fibrin in the blood, promoting free mucous secretion and lessening the tendency to coagulation of blood.

6. Gentle, but diffused stimulation of the nerve centers, favoring sleep and preventing spasm.

R Spts. eth. nitrosi.
Potassæ. acet . . . . . ãã—℥jss
Spts. mindereri.
Aquæ. camphoræ . . . . . ãã℥iij
To be left with slightly acid reaction as shown by litmus.
M.ft.: Adult, dose, tablespoonful; child, dose, teaspoonful, every two hours.

To this may be added tr. aconit or veratrum if needed, and in convalescence tr. ferri chloridi. Such additions always to be made as extra doses and not a part of the prescription.

CARDIAC STIMULATION.

Death approaches the sufferer from croupous pneumonia always through the heart. For this reason it is of the utmost importance to watch this organ, from the inception to the close of the disease. With the trained finger upon the pulse and the educated ear over the precordia, we catch the first signal of danger. To be forewarned is to be forearmed. Nothing is more essential to the cardiac therapeutics than a knowledge of the mechanism of heart failure in pneumonia. *Pari passu* with the consolidation of lung and in direct proportion to its extent, we have a mechanical obstruction to the transfer of blood from the right to the left heart, and added thereto the addition of carbonic anesthesia to muscle and frame. This occurs at a time when ptomaines from vegetable diplococcus are in circulation and before the anti-pneumotoxin has been formed in the albumen of the blood. More blood is coming into the right auricle than can be forced through the lung by the ventricular stroke. The right ventricle becomes so distended that the apex beat is completely removed from its original site, between the fifth and sixth ribs, and the ear placed over the heart detects a heavy dull sound, while percussion reveals an increased area of dullness. In this condition the indications for improvement in the circulation become extreme and pressing. How shall this be best accomplished? Is it philosophical to attempt relief by a vis-a-tergo, or is it more rational to attempt a vis-a-frontis? Are these the indications for the employment of digitalis? It may be a good plan to goad the tired ox that has fallen in the furrow if you want a little more work, but you will kill the ox. It may be good therapeutics to stimulate a diseased kidney if you want a little more urine, but you will have a little less patient. It may be good practice to give digitalis to a fagged out heart in the stage of hepatization of croupous pneumonia, but I doubt it. Digitalis stimulates a weak heart by contracting the arteries and arterioles, by throwing the blood back upon the heart itself, and where there is no pulmonary obstruction the action is prompt and efficient, as in valvular patulencies, etc., but the very condition which is killing the patient in pneumonia would be rendered still more dangerous by such an agent. Our fathers did eat manna in the wilderness and they are dead, but is it strange that venesection should occur to the mind as a possible solution of the question? Experiments in vivisection have demonstrated that a heart brought to a standstill in such diastole may be revived by aspirating the right ventricle.

It has been ascertained that even ligation of the lower extremities just sufficient to prevent the return of venous blood, is followed by immediate relief to the heart. In the same manner is the explanation of the sense of relief felt by the patient upon the application of dry cups and hot flaxseed poultice to the chest walls. Pediluvia would also prove of service, were it not for the ever present danger of assuming the erect position.

Notwithstanding it comes to us as a voice from the past, there is to-day much truth in the statement that "blood-letting is good in pneumonia." Bleeding and tartar emetic marked the heroic treatment of the sturdy yeomen of the early nineteenth century, and yet we find from statistics that the mortality for 1822 to 1832 was 10 per cent., while from 1880 to 1890 it was 18 per cent.

Without attempting to revive a therapeutic so long abandoned and so universally condemned, it must be admitted that those old-time doctors struck some underlying principle in therapeutics which we, with all modern accomplishments, have failed to recognize. That principle was the relief of the overburdened heart. I propose, therefore, to demonstrate how this same desirable end may be obtained without jeopardizing the life of the patient and without inflicting upon him a long and tedious convalescence.

I.—BY AGENTS WHICH DETERMINE THE BLOOD TO THE SKIN.

This may be accomplished by the warm pack, which, applied at a temperature of 98½ F., and protected by light woolens, envelops the body in an atmosphere of steam. By this means the peripheral nerves are soothed and almost invariably this procedure is followed by quiet sleep.

II.—BY BELLADONNA.

This time-honored and faithful servant of materia medica is too often lost sight of in practical therapeutics. It has a place in all hyperpyrexias accompanied by paleness of the skin and in low stages of fever. It is particularly adapted to the condition under consideration, being an indirect stimulant to the heart, diminishing the blood pressure by dilatation of the capillaries. It is also a stimulant to the respiratory centers of the brain, thereby inducing a more perfect æration of the blood. The comparative harmlessness of this remedy in infancy and early childhood enables us to push it quite up to its toxic effects. It has done me yeoman's service

in many an apparently hopeless case of threatened cardiac failure in pneumonia.

III.—NITRO-GLYCERIN AND THE NITRITES

May be expected to rescue a heart after the manner of aspiration, taking off the pressure and flushing the skin, even when brought to a standstill in the diastole of a full right ventricle. Aconit and veratrum viridi certainly have a place in the treatment of pneumonia; the former, being a sedative from the start, is too dangerous for administration by continued dosing; the latter is safer than digitalis. Fothergill's statement that "digitalis is both spur and oats to a heart," is preëminently true, and in low forms of fever where the adynamia is due to long-continued hyperpyrexia. I have attempted to show that the mechanism of cardiac failure in pneumonia has its foundation in an entirely different pathology. I have been led to these conclusions by clinical observations and not by theory.

Finding that in this disease alone I failed to obtain the usual slowing and filling of the pulse in the radial artery, I began to investigate the cause of the failure of this grand old drug so generally serviceable in crippled hearts.

Alcohol will prove a far better cardiac stimulant in pneumonia, by reason of its power to dilate the capillaries, thereby retaining more blood in the skin, while at the same time it may have some value as a respiratory food.

IV.—APPLICATIONS TO THE CHEST.

The feeling that something may be accomplished, at least for the comfort of the patient suffering with pneumonia, by local applications to the thorax is universally believed by the laity. No doubt this idea had its origin in individual experience in many painful diseases. Shall they be cold or hot, moist or dry? Heat is a stimulant and cold is a sedative. Heat relieves pain under any and all circumstances. Heat locally applied is a powerful stimulant to the heart, and, by its action upon the vaso-motor nerves, less sens active hyperemia of the brain.

Physiologic experiments made upon the heart of a frog show that pulsations may be restored after a complete cessation by the application to this organ of a bit of cotton wrung out of very hot water, but they are again arrested by the application of cold. I prefer warm to cold applications, although some authorities, particularly Germans, speak favorably of cold, and even ice packs in the treatment of pneumonia. The choice is between poultices and cotton batting, protected by oil silk.

Those of us who have experienced the relief of a congestive headache by a warm foot bath containing mustard, are best prepared to answer this question. Is it probable that the same relief would follow putting the feet in cotton batting instead of hot water? Poultices are rarely properly made and seldom properly applied. Moreover, they are, at best, a very clumsy application, and by adding weight to the chest walls embarrass still further the labored respiration. A towel wrung out of very warm water wrapped once or twice around the chest and neatly covered by oiled silk is a far more elegant and comfortable application.

By this means the entire thorax is surrounded with an atmosphere of equal warmth and moisture, the superficial vessels are dilated, pain is relieved and repair hastened. Stimulating embrocations are also of benefit and are useful in proportion to the chronicity of the case. The following prescription is a favorite of mine:

℞ Ol. succini rectificati . . . . . ℥ss
Ol. caryophyli . . . . . mxx.
Liniment saponis . . . . . ℥iiss.
M.ft.

EXPECTORANTS.

Cough is a constant accompaniment of pneumonia. At first dry, frequent and distressing, it soon succumbs to consolidation of the lungs and returns with commencing resolution. This return is hailed with pleasure by the physician and with unnecessary alarm by the laity. Perhaps it is the latter observation which has led to the employment of expectorant mixtures, most heterogeneous in composition and most therapeutically incompatible in application. These mixtures generally contain the entire list of so-called expectorants in the materia medica. Ipecac and squills to loosen, senega and ammonia to stimulate, wild cherry and other tannates to check secretions, alkalies to lessen viscidity of mucus and opium to benumb sensibility. Some of these prescriptions are a pharmaceutical curiosity. Yet one meets with them with such frequency in consultation practice that it would appear that reform in this direction is making slow progress. Such mixtures do little more than destroy the appetite and disgust the patient. Water, given in abundance, and at short intervals, is the best and only expectorant required. In cases of children, about the time of crisis of pneumonia with restlessness, cold extremities and pinched features I have seen great good from tincture of assafetida with whisky toddy. As a protection to the chest during convalescence a neatly fitting vest made of one layer of carded wool or absorbent cotton quilted and covered by oiled silk should be worn upon the chest.

PURGATIVES.

It is probably the observations of others besides myself, that purgatives administered during the stage of hepatization of a lung are bad. I have so often been called to cases made worse by the officiousness of some grand-dame, whose desire to purge amounts almost to insanity, that I am able to detect such interference by the collapse that has followed. I can give no explanation other than that purgatives add to the general depression at a time when the child is poorly able to stand it. If the bowels need attention they should be moved by simple enematæ.

TEMPERATURE.

The enthusiasm for the treatment of high temperature so popular a few years ago, has, in a large measure subsided, and it may now be said that thermometric observations are less liable to plunge us into therapeutic errors than formerly.

I have never participated in this "Don Quixotic" fight of temperature, to the extent of allowing it to control my therapeutics, but have been content to treat hyperpyrexia alone, and always in relation to other existing symptoms.

In catarrhal pneumonia I am guided altogether by respiration ratio; in croupous pneumonia by the pulse ratio as compared with temperature.

It is exceedingly rare that I find a hyperpyrexia which does not yield to the warm bath or the warm pack, which I greatly prefer, and to the "tubing coils," known as my invention.

Some danger always attends upon the patient suddenly assuming an upright position in pneumonia, on account of the sudden strain placed upon the heart. I have more than once seen an immediately fatal result following such a procedure. Hence the preference of the pack to the bath. As I grow older in the profession and more experienced in practice, I am less courageous in the use of heroic measures. I must confess to a timidity in the use of the so-called antipyretics known as the coal-tar products or derivatives so highly praised by many excellent physicians. Reduction of temperature, however desirable, ought not to be purchased at the expense of de-oxidation of the blood in pneumonia.

CEREBRAL SYMPTOMS.

Previous to the investigations of Sternberg and Fränkel and the discovery of the diplococcus or pneumococcus of Friedlander, cerebral pneumonia admitted of no rational explanation. Various theories, in themselves ingenious, were made to account for the intense cephalalgia in adults, and for the initiatory convulsions of croupous pneumonia in infancy and childhood. It was at one time thought that cerebral manifestations were more frequently associated with apex consolidation and I, myself from observation, was inclined to corroborate this statement.

Prof. J. Lewis Smith recording his own valuable experience during an epidemic of cerebro-spinal meningitis in 1872 in New York city, makes a special mention of the great increase in the number of cases of croupous pneumonia prevailing at the time. He evidently recognizes a pneumonic form of cerebro-spinal fever. I have many times witnessed the recession of typical cerebro-spinal symptoms *pari passu* with the development of consolidation of the lung. In infancy these cerebral symptoms, marked by convulsions and vomiting, are so common an accompaniment of croupous pneumonia that one is never warranted in pronouncing upon meningitis without a careful examination of the chest. I am convinced that nothing but clinical experience will prevent young practitioners from making this serious error, so completely do the brain symptoms overshadow those of the pneumonia. In etiology, however, they do not differ from the symptoms produced by alkaloidal products of the microörganisms —toxalbumins—in other diseases circulating in the blood, e. g., scarlatina, smallpox, measles and typhoid fever.

So soon as the characteristic lesion of these diseases becomes established, these so-called brain symptoms subside as rapidly as they came. With this etiology it is scarcely possible that one will be found administering drastic cathartics or applying leeches to the scalp. Bromids and chloral are also of doubtful propriety.

The warm bath, the warm wet pack to the chest and tubing cap to the head, is almost certainly followed by relief, quiet sleep and by reduction of temperature, which is also a factor in disturbances of the nerve centers by no means to be lost sight of in our therapeutics.

CRISIS.

So long ago as 1880, in my lectures, I stated that the sudden and remarkable change which occurs usually from the fifth to the seventh day, known as crisis must have some other explanation than the subsidence of inflammation. Auscultation and percussion so frequently revealed no improvement which could reasonably account for such a change; for days after convalescence was established the local lesion could be readily demonstrated.

The study of the micrococcus pneumoniæ croupoæ and its product, pneumotoxin, has led to the discovery of a so-called anti-pneumotoxin, supposed by the celebrated German scientists, the Klemperer Brothers, to be antidotal to the former. The opening of this window certainly throws a flood of light into a dark recess. Should the fond expectations of these earnest investigators prove true, your patience will not be burdened in future by lengthy papers upon the therapeutics of croupous pneumonia.

The sick will be made to cure the sick, and the physician, armed with his hypodermic syringe, will act as a mediator between the two. Unfortunately, however, for all these beautiful theories which comet-like, dart across the medical sky, dazzling our vision, they are soon lost below the horizon, leaving us to "darkle in the trackless void."

In diseases which secure an immunity against a subsequent attack, we have a right to expect much from inoculation. Pneumonia in so far from securing exemption from future attacks, predisposes to them, and this has been the observation of physicians from time immemorial the world over. I have in my practice a patient who has had croupous pneumonia seven times in six years and whose life has been in jeopardy several times.

In conclusion, permit me to say that, while the majority of cases require little medicinal treatment, the successful practitioner will be on the alert to detect constitutional and hereditary weaknesses, in his little patients. The importance which attaches to diathesis can not be over-estimated. Pneumonia in a rachitic infant carries with it a far more grave prognosis than in a healthy child.

The strumous and tubercular diatheses entail a series of consequences peculiar to each. Delayed resolution in the lung and enlargement of the bronchial glands, indicate the use of potassium iodidi and muriate of ammonia with the daily application of tincture of iodin to the upper portion of the thorax.

Cod-liver oil with marshmallow emulsion and the elixir lacto-peptine with tincture ferri chloridi and gentian as prepared by the New York Pharmacal Co., have proven to be excellent reconstructive tonics.

DISCUSSION ON BRONCHO-PNEUMONIA.

DR. JAS. B. HERRICK, Chicago, Ill.—I think Dr. Churchill rightly said that the diagnosis of pneumonia in a child was often difficult, for the reason that the classical symptoms are oftentimes entirely lacking. We frequently have central pneumonia where the physical signs are so imperfectly marked that the diagnosis is very uncertain. The pain is so frequently referred to the epigastrium that the attention may be drawn to this region, but the rapidity of the respirations should draw our attention to the chest. I agree with Dr Christopher that the cough, which is often noticed in children, is frequently nothing more than a symptom of walking typhoid. The broncho-pneumonia which occurs in the newborn is probably due to the inhalation of liquor amnii. I do not favor the use of poultices in either bronchitis or pneumonia. At first I attempt to lower the temperature by the bath, and if unsuccessful I then resort to the coal-tar preparations. I have never seen a bad effect from these antipyretics.

DR. GRAHAM, Philadelphia, Pa.—If I were limited in the treatment of pyrexia, I should not hesitate to accept cold as the best means. I have used the cold bath frequently with good results. If cold is applied at all it should be done fearlessly. I have never noticed any depressing effects from its use. We should begin the bath at a temperature of 72 to 80 degrees F. I have also obtained good results from cold water injections; a pint to a pint and a half can be injected at a time. I think aconit should be used with the greatest caution.

DR. WORK, Indiana.—I am in favor of poultices. Have had good results from the administration of cinchonidia. I invariably eliminate the bowels first. I would not apply cold, for I prefer the application of stimulating poultices. Onions and flaxseed meal make a very efficient poultice. I continue effective elimination all the way through the disease.

DR. DORLAND, Philadelphia, Pa.—I think the pneumonia of the new-born is almost always due to the inhalation of liquor amnii.

DR. CHAS. G. JENNINGS, Detroit, Mich.—In bronchitis, which seems to be extending well down, we should be very accurate in our procedure. It is a well-recognized fact that this extension can be frequently arrested. I find that a very sharp administration of antimony, ipecac or apomorphin is followed by good results. Along with the antimony, one of the preparations of opium serves very well to modify its depressing action and also allays the nervous symptoms. I believe the bath to be a stimulant to both respiration and circulation, as well as a good antipyretic. Drugs may be used in the beginning of the disease, but during the latter part of the course I think the bath, beginning at 90 degrees and gradually reduced to 80 or 75, is a very great stimulant to all the functions and it will reduce the temperature to a very safe point. I should certainly prefer a hot water poultice to an onion and flaxseed meal poultice. In the rapidity of the respirations is a very important diagnostic sign. I think digitalis is good occasionally.

DR. W. S. CHRISTOPHER, Chicago, Ill.—I do not think an exceedingly rapid respiration without areas of consolidation should be diagnosed pneumonia. Bronchitis may present exceedingly severe symptoms when the smaller tubes are not affected at all. For the prognosis we are to be guided by the illness of the child. An elevation of temperature is only serious when it reaches such a point that it interferes with the action of the white blood corpuscles, which is about 105 degrees. In pneumonia, the labor is thrown upon the right heart, which leads to an over-filling of the veins, and for this reason digitalis should not be given. Sweet spirits of niter is a very useful drug. Purgatives which will empty the liver, and above all things which dilate the capillaries locally are to be recommended. Capillary dilatation of the skin is very important and can be obtained by the use of poultices or jackets. For my own part I prefer the poultices, yet in careless hands they are exceedingly dangerous. I think we can derive a great deal of benefit from baths given at the temperature of the body. Water at a temperature of 98, will often reduce the temperature, and such baths may be continued for from fifteen minutes to an hour.

DR. J. M. G. CARTER, Waukegan, Ill.—According to statistics, there are five hundred and sixty-one deaths per million due to bronchial affections in the city, to one hundred and sixty-five per million in the country. Among the Indians there are only ten deaths per thousand attributable to bronchitis, while among the whites there are about twenty-eight per thousand. This I think, goes to show that exposure does not play a very important rôle in its causation.

DR. I. N. LOVE, St. Louis, Mo.—I believe generally that small doses of antipyretics are sufficient. I think it very important that proper terms for the various lung affections should be used, otherwise it renders all statistics valueless. No doubt there are many cases of masked pneumonia which are never diagnosed as such. I do approve of the use of the bath. The hot bath should never be given for convulsions, nor should the cold bath be used in the treatment of pneumonia.

DR. F. S. PARSONS, Northampton, Mass.—I have never succeeded in getting a second dose of cinchonidia down a child. In croupous-pneumonia I have relied more upon the brandy treatment, with very small doses of digitalis. I use acetanelid in very small doses, which I believe acts better upon the skin than large doses.

DR. J. A. LARRABEE, Louisville, Ky.—Where we have a full right ventricle I do not believe digitalis should be given. I am in favor of the warm bath. In bronchitis I have had good results from vapor inhalations; they will do more good than all the expectorants put together. Teething, I believe, in a way, predisposes to bronchitis. I certainly believe that hot applications are far more efficacious than cotton jackets.

DR. TOWNSEND, in discussing Dr. Thrasher's paper, was of the opinion that if cleanliness and a proper diet were looked after, little trouble would occur during dentition.

DR. A. FOSTER of Chicago, in discussing the same paper, laid stress upon the importance of discriminating between the effects of teething and the results of improper feeding. He also thought there was a reflex condition existing between the cutting of teeth and the stomach, as well as there is between the uterus and the stomach, and was not of the opinion that all the trouble arising during dentition was due to the stomach alone. The canines are more apt to cause trouble than any of the other teeth. He did not agree with Dr. Thrasher that mothers as a rule do not prefer to nurse their children.

DR. CHRISTOPHER of Chicago, was strongly opposed to attributing the various ills of the child during dentition to cutting of teeth, and believed that most of its affections are due to other causes. It is true that in most bottle-fed babies the nutrition is not up to par and the state of its tissues is not normal, and I believe that such children are affected by slight things, and in such the cutting of the teeth may cause trouble.

In discussing Dr. J. Schneck's paper, Dr. Work approved of the treatment therein stated.

THE CURABILITY OF NASO-MUCOSITIS.[1]

BY THOS. F. RUMBOLD, M.D.
SAN FRANCISCO, CAL.

(*Continued from page 848*).

PART II.

The Number and Intervals of Local Applications will vary with the Grades.—If the Patient of the First Grade, an Infant, is Properly Treated soon after it has taken cold, the disease will be of very short duration, because the reparative processes are very strong at this age. In case the patient is only a few days or weeks old, two or three applications may be required the first day; two on the second day, and one on the third. Frequent treatments are necessary, because the secretion forms rapidly and requires removal as soon as it is formed. Patients from one

[1] The term, "naso-mucositis," is formed from the word mucosa, the mucous membrane, with the usual termination, "itis," that indicates its inflammation, and the prefix naso-, which limits the inflammation to the nasal passage.

to twelve months of age will require daily treatments at first for from three to ten days, and then two or three weeks' treatment given every other day, making in all from nine to nineteen local applications. Those from one to two years of age will require daily treatments for from three to ten days, and then for from three to six weeks' additional treatment given every other day, making from twelve to twenty-eight local applications altogether. Relief follows the first application, and recovery takes place at the completion of these courses.

Patients of the Second Grade.—Young Children will require daily local applications for from five to ten days, every other day for from two to four weeks, twice a week for three weeks, once a week for five weeks, making from twenty-two to thirty-three in all.

This completes their *first course* of treatment, and occupies from eleven to thirteen weeks. All disagreeable symptoms will disappear during the second or third week.

Patients of the Third Grade.—Youths, will require daily treatments until the purulent character of the nasal secretion disappears, which is usually from two to three weeks; then local treatments every other day for about four or five weeks, then twice a week for four weeks, and then once a week for five weeks; making in all, from thirty-nine to forty-nine treatments for their *first course*, occupying from fifteen to seventeen weeks. Relief follows the first treatment and all disagreeable symptoms should disappear permanently from the third to the fourth week.

Patients of the Fourth Grade.—Adults, will require a *first course* of daily treatments for from three to four weeks, then five or six weeks three times a week, then about five weeks twice a week, and once a week for six weeks; making, in all, from fifty-two to sixty-two treatments. All unfavorable symptoms should be relieved during the first few weeks.

If the naso-mucositis is complicated with any of the following sequelæ: ear, throat, or lung trouble, enlargement of the turbinate processes, deviated septum, pruritic naso-mucositis (hay-fever), asthma, epilepsy, chorea, paralysis agitans of the muscles of the face, neck, or ears (tinnitus aurium), mental disability, commonly called "neurasthenia," "nervous prostration," from mental over-work, these local applications and the constitutional treatment will have to be continued for a longer period of time, the length of which will be governed by the peculiarities of each case.

Patients of this grade will require spring and fall courses of from eight to ten local applications each, for from three to five years. About seven in every ten of those over thirty-five years of age will require these supplementary treatments from but two to five years longer, that is from five to nine years in all.

Patients of the Fifth Grade,—Those over Forty Years of Age, will require about the same number of local treatments, for their *first course*, as those given to the fourth grade. Those under fifty-five years of age will require from ten to fifteen treatments every spring and fall for seven to ten years; while those who are older will require from fifteen to twenty treatments every spring and fall during life, to maintain their mucous membrane in such a semi-normal condition that they will not complain. I have known, however, a large number of patients over fifty-five to pass one, two, or more years without requiring local treatments.

Concerning Supplementary Courses.—Experience has proved, thousands of times, that the younger the patient the less extensive and less permanent the changes due to inflammation, and at the same time, the stronger and more rapid the recuperative powers. For these reasons they will require a less number of supplementary treatments. As has been stated infants rarely require supplementary treatments.

Some children, patients of the second grade, may require from four to six supplementary treatments at the next change of the season, that is, the spring and fall following their first course. Also some patients of the third grade may require from five to eight supplementary treatments during each spring and fall course for two or three years. The dates of the supplementary spring and fall courses are from March 15, to May 15; and from September 15, to November 15.

Why Supplementary Courses are Required.—The patients that I have described as requiring spring and fall local treatments, are those who can not fully recover from the effects of the chronic inflammation at the completion of their first course of treatment. It should not be expected that the blood vessels of the mucous membrane and of the submucous tissues, which have become enlarged to twenty or forty times their normal diameter, would be reduced the nineteen or thirty-nine diameters with only a few months' local treatment. Even looking at the mucous membrane alone, it is still in an atonic condition at the end of such a period, although the inflammation is greatly reduced; consequently it must be allowed to remain in an uninflamed state for some time, longer or shorter, according to the age of the patient, before complete recovery can take place. It must, at least, so remain long enough to regain its normal resisting power, until its blood vessels and nerves have returned to nearly their normal condition.

Supplementary courses, extending over several years, are required to maintain the still partially inflamed, therefore over-secreting, surfaces in a clean condition. The secretion from the inflamed surfaces, which is always acrid, assists in maintaining the disease, and if this is not removed when it forms in the spring and fall, complete recovery can not take place. Until all this reparation has taken place, the membrane is in a weakened condition, consequently, it is liable to be injuriously affected by exposures to excessive variations of temperature, barometric and hygrometric changes, or even a debilitated condition of the stomach. Healthy mucous membrane is not especially affected injuriously by any of these agencies. It should be constantly kept in mind that when a cold is taken by a person whose nasal passages are in a healthy condition, his nasal mucous membrane is *not* particularly affected; it is his whole body that suffers. On the other hand, if the victim of naso-mucositis takes cold, his nasal passages alone seem to be affected. Although this is not strictly true, yet he complains as though these passages alone were affected, and they are chiefly affected only because the mucous membrane is in a weakened condition. If one's arm is fractured, he is, on this account, liable to take a cold in it if he exposes himself. When the injured arm has partially recovered then it is only partially liable to take cold, and the liability to take cold lessens as he progresses toward recovery. So it is with

the nasal mucous membrane. Thus it is seen that *time* is an essential element in the recovery of all cases of naso-mucositic inflammation in patients over twenty years of age.

The older the patient, the greater and more permanent the tissue changes brought about by the chronic inflammation, and at the same time the weaker and slower the reparative processes. For these reasons, in such cases, a far greater number of supplementary treatments must be given. Take two persons of the same age in either of the grades, over twenty years of age; one with a simple nasal inflammation; the other with it of so severe a character as to affect the ears or eyes, or to cause symptoms of neurasthenia,[5] or to produce an epilepsy, or chorea, or such like; it is self-evident that the former case will require a much shorter *first course* of treatments, and shorter *supplementary courses*, than the latter one, where the inflammation is so severe as to affect parts of the head at so great a distance from the nasal passages. The secondary ailment can be relieved only by the reparative processes of nature, after the original nasal trouble is subdued to a great extent. I do not remember to have had a patient who did not say that each of the supplementary courses was as relieving as the first course of treatment. They always gave even greater immunity from colds, because the mucous membrane is more nearly in its normal condition.

If the spring and fall courses are not taken, the inflammation will slowly but surely resume its former severity, and then from that time it will continue to increase just as though no local or constitutional treatment had ever been given. Under these circumstances, it would have been far better if patients omitting such courses had not commenced to take treatment. Their time and money would not have been wasted, nor would the reputation of the physician have been injured by unavailing complaints of not being cured.

No Disease more Amenable to Hygienic and Therapeutic Management than Naso-Mucositis.—In the case of any patient not over fifty-five years of age, who attends to his various daily duties, whose appetite, digestion and sleep are good enough to maintain passable health, it will be the fault of either the physician or of the patient if he is not cured. A cure must follow if the following conditions are fulfilled, viz: 1, obedience to hygienic precepts involving the discontinuance of habits that are the cause of the disease; 2, proper medical treatment, continued for a sufficient length of time, by which the inflamed surfaces are kept free from all irritating secretion, and have applied to them perfectly *non-irritating medicaments* by perfectly *non-irritating means*.

There are Several Very Good Reasons why Persons are not cured of Naso-Mucositis.—In the *first* place, they are unconscious of living in constant violation of the laws of health; or 2, they do not have the least conception that their disease is solely the result of these violations; or 3, they do not realize that they are so seriously, or are so permanently affected; or 4, they received improper medical treatment; or 5, they cease proper treatment too soon.

Most Cases of Nasal Disease are Attributable to Ignorance.—Let us commence with the youngest sufferer. Is the mother unable to properly protect her babe when she takes it for a healthful out-door walk? *No.* Is she unable to make a cap to protect its tender, hairless head from being injured by even an indoor temperature that is 20 or 30 degrees colder than its body? *No.* Then why does she not prevent it from becoming a victim of this disease? The only answer that can be given to this question, is, that she is entirely unconscious of any omission in the care of her child, and has not the least conception that the slightest harm will result because its head is not protected by a cap. The heads of all hairless infants that she has seen are allowed to remain uncovered, and *for that reason alone* her child's head goes uncovered while in the house. In Europe the heads of all infants are covered with caps, day and night; in this country the heads are not covered day or night.

The mother does not know that the "snuffles," to her a very trifling matter, because so exceedingly common, is the result of quite a number of colds, owing to the same number of undue exposures. She has not been informed that colds thus taken prepare her child's mucous membrane to take other colds more easily and more severely on subsequent exposure, and that repetitions of exposure and consequent colds are positively certain to end in serious disease of its nasal passages, ears, lungs, or several of its organs at the same time. This is the modus operandi of preparing the patients of the first and second grades. It is seen at once that success in curing such patients will depend, not so much on applications or remedies, as on the successful education of the parents, so that they will know how to prevent the continuous irritations from colds. If successful in this respect, cure is certain to follow. Not only that, but I believe that three-fourths of these cases—of course uncomplicated ones—will recover without medication of any kind, provided proper care is taken of them. I say this to indicate my estimation of the great value of hygienic measures.

We have already seen how the third grade patients are prepared for the rhinologists, through exposure and improper dressing permitted ignorantly, by their parents. In the common matters of every-day life there is not a greater display of woeful ignorance, almost criminal, than is here shown. It is ignorance as well as carelessness and viciousness, that has brought on naso-mucositic disease upon patients of the fourth and fifth grades. If excesses *must* be indulged, evil consequences *will* follow and must be endured; *for nature's laws would have to be changed before they could be cured by any method of treatment.* Many patients fail of cure through imperfect treatment, either owing to not having the right method applied to their cases, or not fully availing themselves of it.

Partial Treatment.—There are quite a number of persons who received proper treatment for several months, almost long enough to complete their *first course*, but do not entirely discontinue those habits and customs that aggravate the disease, such as the indulgence in tobacco and stimulants, and other forms of dissipation, the improper use of clothing, such as low-necked and short-sleeved dresses, attending operas at night, then eating, wine suppers, etc. Such patients fail to appreciate the importance of hygienic measures, and only observe them while under great anxiety from the debilitating influence of the disease. It is seen that they expect this dis-

[5] Dr. Beard's name for the late popular complaint known as "nervous prostration," from over-work of a mental character.

ease to be cured by medicine alone. Customs, habits and dress are not inquired into by them; local symptoms alone absorb the attention. Their not being cured quickly engenders a fear that they will not be cured at all. Some will be dissatisfied if they are not completely cured in a few months at the farthest, and this result must be effected without entailing any trouble on their part, as well as without interfering in the least with their usual course of life, especially if this course has been for years in gross violation of the laws of health.

Almost all patients experience marked relief on receiving local applications during the first three or four weeks; after this a small percentage of them will say that the treatment seems to be less efficacious than formerly. As quite a number of them have tried remedies that afforded relief at first, they begin to suspect that this also will result in failure. These reports come from patients who have experienced but little pain or discomfort of any kind. Upon questioning them, it will be found that during the first few weeks of treatment all unpleasant symptoms slowly and imperceptibly passed away, and were completely forgotten. Upon this discovery, and relating to them the sensations that they gave when they commenced treatment, they are entirely satisfied; although a great many will hardly believe the physician when he recounts their symptoms upon their first visits. It is remarkable how quickly their disagreeable sensations pass out of mind until shown a record of them.

Advice Regarding the Avoidance of Colds.—Many times patients, especially those of the fourth grade say: "All this advice with regard to being careful not to take cold is well enough to almost any one but myself; I take cold almost constantly, even when I am doing my utmost to prevent it. I do not know how I take cold; I don't think it is any fault of mine. What is the use of advising me to do something I can't do?"

The answer is this: a mucous membrane that is greatly inflamed, as is this patient's, is one that is remarkably sensitive to attacks of cold. A slight draft of air, even walking in a cool hall, going into a cold bed, or a slightly disordered condition of the stomach, will be sufficient to produce manifestations of a cold. But, to repeat, *it is so with those only who have had severe chronic naso-mucositis for many years.* Still the advice is proper to persons thus susceptible. They will find that, as the treatment reduces the inflammation, care will be successful in warding off colds, as it is only the excessively inflamed mucous membrane that takes cold so easily. The more successful they are in preventing colds, the more quickly they will be cured and the more certain they may be that they are making permanent improvement.

Colds Resulting from Debility Occasioned by Indigestion.—There is another apparent cause of colds, and it is one of the very greatest importance; it is in regard to the proper kind of food. Patients who have for years had a stream of muco-purulent secretion passing incessantly from the pharyngo-nasal cavity down through the esophagus into the stomach, have in this way slowly produced indigestion; that is, slowly weakened the mucous membrane of the stomach by the continued presence of the nasal secretion. This secretion is always acrid, therefore irritating; not only this, but it is really a substance that will assist in bringing about a fermentation of the food. Thus it is that many persons who have a good appetite have poor digestion and, as a consequence, are but poorly nourished. The reasons for this are two-fold: one, as has been stated, the mucous membrane of the stomach is weakened; the other, the whole contents of the stomach and bowels have undergone a peculiar species of fermentation, started by the fermented nasal secretion. Evidences of the fermented condition of the alvine discharges are the excessive and peculiarly disagreeable odor of the stools, and the uniform high color of the urine, etc., showing that all the organs concerned in digestion and excretion are injuriously affected, and as a consequence, the nutrition of the whole body must necessarily suffer. In the large majority of instances the weakened stomach will not as completely digest animal food as it did in former years; but it will almost always digest vegetable food. If such is the case, and the patient can easily prove this for himself, if he is observant, then he should govern his diet accordingly. It looks a little strange that a hearty repast of roast beef, taken at a night meal, will frequently result in an increase of one's cold the next day, but I am certain, from many observations, that such is the case.

Taking Cold Frequently.—"It seems to me that I take cold more frequently than before treatment." If this is the case, then the patient may be slightly over-treated. Over-treatment, of course, means increase of irritation instead of the decrease, which is essential to recovery. The remedy is easy. In the majority of instances the remark comes from patients who have made but slight observations upon their own condition, until they came under the care of the physician. In a few weeks they will find that they were mistaken, as by this time they will observe the reverse to be the case, that is, that they take cold less easily than before they took treatment. Decrease of inflammation and decrease of cold-taking always go together.

Evidences of Improvement.—It is the relief of the acute inflammation, which nearly always occasions marked discomfort, that is plainly observed by the patient; the subsidence of the chronic form is not accompanied by marked relief, unless the patient compares his present condition with that of several weeks or months previous. Many of these patients continue under treatment for three or four weeks, entirely on their confidence on the physician, so little do they observe any change. A very common feature of their condition, which is not usually noticed by these patients until their attention is called to it, is the fact that they do not take cold as frequently and severely as formerly. This they should consider as the very best evidence that they are making permanent improvement. If they are not taking cold as frequently as formerly, it is because the treatment is relieving the diseased surface of its chronic inflammation and the membrane is becoming stronger. This is the opposite of their condition before they took treatment; then, they took cold even without an opportunity, now, they do not take cold until they are unusually exposed—*a marked contrast.* This contrast should be brought forcibly to the patient's attention.

Regardless of the Laws of Health.—Frequently patients, who live regardless of the laws of health, unconsciously or purposely conceal the truth to

avoid a merited censure for their reprehensible conduct, and wish to make it appear as if it was the physician's fault alone that improvement did not continue until they recovered. The relapse to the former state of ill health is but a consequence of the relapse to their former habits and customs of life.

It is evident that if they had not continued to contract the disease, that is, by being indifferent to taking colds and using tobacco and stimulants, they would have continued to improve until complete recovery had taken place; for if they improved when their health was seriously impaired by the nasal complaint, and the inflammation was in its severest form, it seems natural to suppose that after their systems had markedly recovered from the debilitating influence of the disease, they would have continued to improve if the same hygienic and therapeutic measures had been continued, although the improvement would not have been so rapid as at first, as has been explained.

On partial recovery they return to their usual mode of life without any restraint, and of course their nasal trouble ceases to improve. This arrest of improvement and the annoyance they experience in denying themselves of their disease-producing habits, cause them to discontinue treatment.

If asked by their friends concerning their nasal complaint, they reply that they were conscious of marked improvement at the early part of the treatment, but after a few weeks, while not as ill as at the commencement, the improvement did not continue as rapidly as at first, and for that reason they discontinued their visits to the physician. After a few months they will relapse into their former state of ill health.

(To be Continued.)

HERNIA IN CHILDREN.

Read in the Section on Diseases of Children, at the Forty-fourth Annual Meeting of the American Medical Association.

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Hernia being a very disabling affection to a relatively large per cent. of the human family, and the frequent cause of death both in adults and children, is sufficient reason for its being considered here to-day.

Frequency and Varieties.—I have mentioned that it affects a comparatively large per cent. of mankind. It has been variously estimated that the affection is found in from one-eighth to one-sixteenth of the entire population. About one death occurring in every six hundred is due to hernia. Almost every aperture leading directly or indirectly to the abdominal cavity is liable more or less frequently to become the point of exit of a hernia. In the order of frequency of occurrence they may be named as follows: inguinal, umbilical, femoral, ventral, obturator, ischiatic, perineal, diaphragmatic, and a few other rare forms.

For every ventral hernia there are about four femoral, five umbilical and sixty-two inguinal herniæ.

At the Hospital for Ruptured and Crippled, New York City, there were treated during the five years from September, 1887 to September, 1892, 19,756 cases of hernia, or about 4,000 per year. The relative frequency of the different forms are as follows:

	No. Cases.	Male.	Female.	Under 14 yrs.	Right.	Left.	Double
Inguinal	16,864	14,994	1,870	4,348	7,806	4,375	4,686
Umbilical	1,488	569	919	789			
Femoral	1,135	418	717	26	700	379	56*
Ventral	269	95	174	13			
Total	19,756	16,076	3,680	5,176	8,506	4,754	

*These 56 double femoral hernia cases only cover the reports of 474 femoral cases. Report for 1891 and 1892.

Sex, Age, etc.—Hernia in general is found much more commonly in males than in females. Of the above 19,756 cases, 16,076 were males and 3,680 were females, or about four and one-third times as many males as females. Of the inguinal variety of hernia, which includes the great bulk of the cases, there were 16,864 cases; of which number 14,994 were males and 1,870 were females, or about eight times as many males as females.

Umbilical hernia is found more frequently in females than males, nearly in the proportion of two to one, and over half the cases are seen in children. Femoral hernia is also found more frequently in females than males, but is rarely seen in children, only 5 cases a year noted out of 4,000 cases examined. Of the total number of cases of all kinds treated in five years, 19,756, there were 5,176 children under fourteen years of age, or a little over one-fourth of the whole number.

Etiologic Factors.—It has been noted that climate and the condition of the patient are factors bearing on the relative frequency of the affection. Of countries, Spain and Portugal have the highest per cent. of ruptures per population, and the countries of South America the lowest. Of the States of the Union, Minnesota has the highest average and West Virginia the lowest. Physical condition of the patient has a marked bearing on the subject. Children weakened or debilitated by disease are more liable to the affection than the rugged; and having the hernia, it is harder to retain in place when the child's general health is weakened by any cause whatsoever.

The passage of the spermatic cord and vessels through the inguinal canal has always been recognized as the prime causation factor in the production of inguinal hernia and need not be discussed. Umbilical hernia may be congenital or acquired. Of the congenital variety, arrest of development of the abdominal walls is a frequent cause. Dr. James R. Chadwick of Boston, suggests another cause. We know that the intestines are developed outside the abdomen. Should their volume be too great to be readily inclosed by the undersized abdominal walls, at the time when the abdomen should be normally inclosed, the umbilical vesical should it fail to have atrophied, acts by means of its duct to keep part of the intestines without the abdomen and thus to form a hernia. Dr. Chadwick demonstrated his views by several dissections; other cases have been reported which favor this idea. The umbilical aperture is ordinarily patent at birth and is therefore a naturally weak point. Dr. Edward Swasey, in reporting 500 cases of hernia in children observed at the Hospital for Ruptured and Crippled, noting that female chil-

dren are more liable to umbilical hernia than male, suggests that it is probably due to the relatively larger funis in the female child. He further attributes the greater frequency of right inguinal hernia than left, to the weight of the liver pushing the intestines on the right side down into the funicular process. The region at and about the umbilicus being naturally weak, the acquired form in children is brought about by crying, coughing, straining at stool and the like. Femoral hernia is rarely seen in children, and the etiologic factors acting, in the comparatively few cases observed, are not marked, or, at least, have not been well made out. Ventral hernia is usually seen in feeble and delicate children, and especially when the muscular system is poorly developed. The usual contents of a hernia in a child is intestine or omentum, though rarely an ovary, uterus, kidney, or a part of the bladder has been found.

Treatment.—The treatment of hernia in children can be classed under these heads: 1, general treatment; 2, mechanical support; 3, operative measures.

1. General Treatment.—If possible, the attending physician should obtain knowledge as to the circumstances under which the hernia first appeared and this active causation factor should be removed. Suppose that it first appeared during a fit of vomiting, and from thence, after each meal, the child is sick and the hernia appears. In such a case the feeding of the child is of paramount importance. Should the hernia come down during fits of coughing, treatment for the cough comes first. Violent explosive efforts must be checked before the hernia can be cured.

Recently I was called in consultation to see a child, with a large right inguinal hernia. The child was suffering from whooping cough, so that nothing very effective could be done till the cough was cured. An elongated uvula might be the cause of vomiting or coughing. A rectal polypus or chronic diarrhea may cause a hernia or prevent its permanent cure by compelling the child to strain at stool. Relief of these conditions should be looked after. Should the hernia appear during micturition, see that the preputial and urethral orifices are free. Possibly the child is suffering from a calculus. If the child is emaciated and its muscular system poorly developed, tonics, cod-liver oil, good food, out-door exercise, and sunshine are eminently in order.

2. Mechanical Treatment.—At the Hospital for Ruptured and Crippled, New York City, where the writer was formerly House Surgeon, they treat on an average about four thousand patients a year having ruptures. The general plan of treatment, at that institution in all reducible cases, except umbilical and ventral, is support by means of a steel spring truss, using pressure as light as consistent with the effective control of the hernia. This truss which I show you, known as the "Knight" truss, is the support generally employed. It is easy of application and is quite inexpensive. It differs from those usually sold at the shops in that it is an "opposite side" truss, i. e., it passes in front of the pelvis to the rupture, from the opposite side of body. It passes three-fourths around the body and the circumference is completed by means of a strap. The spring is made of imported steel, tempered to a point which permits it to be shaped to the contour of the body. The steel band is covered with rubber tubing, and at the end is a shank at right angles to the band, to which is attached a soft wood pad, one and one-half to two inches in diameter covered with chamois skin. The spiral spring truss is used some, also the Seeley and the Penfield celluloid, but the latter are not so efficient in the severer forms of hernia. In those cases that are quite difficult to hold, the "Hood" truss is used. This is a very neat and comfortable truss, but is too expensive for clinical purposes. In over three-fourths of the cases the "Knight" truss is found quite efficient, and this combined with its cheapness makes it the truss par excellence. Dr. S. E. Milliken, formerly Assistant Surgeon to the Hospital, devised a truss to hold the comparatively few that could not be held by the above named trusses. It is a combination of the Knight and Hood trusses, and is quite efficient, even in nearly all the worse cases.

Umbilical herniæ in children are treated by means of a small pad or wooden button held in place by strips of rubber adhesive plaster. The plaster need not be changed oftener than once in ten days unless excoriations are produced. A large per cent. of the cases of umbilical hernia in children are cured by this method.

Femoral hernia exists so rarely in children and is so easily held that little need be said of this form. The Spiral spring and the Knight truss will usually answer the purpose. Let me here say that it is not sufficient, on making the diagnosis of rupture to send them to an instrument maker, leaving the whole after-treatment to his judgment. The physician should fit the truss or at least see that it is done properly. An ill-fitting truss is worse than none at all. A child I recently saw, where the fitting had been done by one of the quack "truss specialists" had, as the result of a badly fitting truss, an ulcer of quite severe grade at the point of pressure. The pressure should be light as possible, consistent with security, and should be over the internal ring. As it is much more difficult to fit and control a rupture in a child than in an adult, therefore special directions should be given to the parents—the need of always having the pad in place; that the child should never be without the truss; that the parts be kept clean to prevent excoriations; in fact, the more explicit the instructions the more apt they are to be carried out.

RESULTS OF MECHANICAL TREATMENT.

Dr. W. B. DeGarmo of New York, gave the results of mechanical treatment of hernia (*New York Medical Journal*, March 3, 1888, p. 236–7) in one thousand cases in private practice; over one-fourth of the entire number were dismissed as cured; i. e., one-fourth having remained so for over six months without support; one-third were improved, i. e., were able to wear a lighter truss than at commencement of treatment and with comfort. About twelve per cent. of Dr. DeGarmo's cases were under five years of age. He believes that a large per cent. of herniæ occurring before middle age can be cured by early mechanical support.

Dr. W. T. Bull of New York, takes a moderately conservative view of mechanical treatment. He believes that "a certain number of favorable cases, especially in children and young adults are cured, and permanently so, by wearing a truss for a longer or shorter term;" but what the proportion is that are so cured he is unwilling to estimate. He further states that "a larger number of cases are found in

which the hernia is perfectly controlled by a truss with but slight, if any, inconvenience to the wearer. But there remains another class of cases in which the truss fails to hold completely, on account of adherent or irreducible omentum—298 such cases were observed at the Hospital for Ruptured and Crippled in a single year, of which 93 were in women and children."

3. Operative Measures.—The question that first suggests itself to us is, What cases shall be reserved for operative treatment? All agree that operation is required in strangulated and irreducible hernia; further than this there is considerable difference of opinion. It would appear that Mr. Spanton, an Englishman, would have us operate for radical cure in a large per cent. of cases. Marcy of Boston, in his recent work, "Anatomy and Surgical Treatment of Hernia," page 378, quotes Mr. Spanton as saying: "If it is possible to effect the cure of rupture early in life (thereby eliminating at once one-eighth of the whole number of cases) by an operation which is both safe and efficient, we are led to inquire in the words of Sir Spencer Wells, "Whether it may not be better to operate even on young children than to expose them for several years to the inconvenience of a truss, with the possibility that, after all, a radical cure may not be obtained." Dr. Marcy's comments on the above are: "The knowledge and adoption of antiseptic operative measures which have become general since the date of Mr. Spanton's writing, (International Medical Congress, 1881) gives yet more force to his earnest plea in behalf of a large class of helpless sufferers. If by mechanical means we can not effect a cure, it is our duty to operate." Dr. W. T. Bull of New York, classifies those requiring operation as follows: "1, cases of adherent omentum; 2, cases of hernia complicated with reducible hydrocele; 3, cases of irreducible and strangulated hernia.

"With certain surgeons of high authority we may add another class, viz.: all cases which from various reasons are unable to command the large amount of care requisite for successful mechanical treatment."

Leaving the subject of strangulated hernia and taxis to those who are to discuss this paper, I desire to make the following comments on the subject of the operation for radical cure: the operation should be done under the strictest possible antiseptic precautions. Great care should be taken in the dissecting out of the sac, also in the separation and handling of the spermatic cord. It is usually best to open the sac and examine its contents. The sac should be tied off well down in the wound, the external portion removed and the stump returned into the abdominal cavity. The aim should then be to reform the inguinal canal to as nearly its normal length as possible. The deeper parts should then be brought together by buried sutures and the skin wound according to the method described by Marcy. The wound being dressed antiseptically, over all should be applied a plaster-of-paris spica from the ankle to the umbilicus. Dr. Wm. B. Coley of New York, has been using the plaster-of-paris covering during the past year at the Hospital for Ruptured and Crippled, with excellent results, and he attributes the quick healing to the absolute rest which it imposes on the parts. The casing is left on for eight days when the wound is dressed for the first time.

Results of Operative Measures.—Heaton's method of injecting quercus alba is so almost universally a failure to cure permanently, that it is pretty generally given up. I have seen it used in a number of cases with failure in about all.

Of sixteen cutting operations for radical cure performed at Hospital for Ruptured and Crippled in 1889 and 1890, during my service, six relapsed the first year and two others later. Part were by the Socin and part the Czerny methods. Dr. Coley of New York, reports forty cases of operations on children during 1891–92 by the Bassini method. Of these forty cases, but one has relapsed and in this case there was prolonged suppuration. Bassini has reported 262 operations by his method with one death. Of these, 247 operations were traced, 47 were without relapse after two years, and 108 had no recurrence for periods varying from one to four and one-half years after the operation.

Championnière reports 275 cases with 2 deaths: 112 have been kept under observation; 30 have gone 2 years without relapse and 11 have remained solid for 4 years and over.

PHIMOSIS; A PLEA FOR ITS RELIEF BY EARLY OPERATION.

Read in the Section on Diseases of Children, at the Forty-fourth Annual Meeting of the American Medical Association.

BY J. A. HOFHEIMER, M.D.
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The subject of this paper is as old as medicine itself; my attention, however, within the past few years has especially been called to various ailments of infancy and childhood, which may have been directly attributed to phimosis. In many of the cases this condition had been overlooked by physicians previously in attendance. In some of the cases attended by the writer from their birth, phimosis had been the last thing considered, but a relief of this malformation would always bring about an amelioration of the various symptoms, and in most cases an absolute cure.

In advising an operation for phimosis it is not my object to indorse circumcision as done according to the rites of certain oriental religions; but to perform an operation based strictly on anatomic and physiologic data.

The main purpose of the prepuce is to act as a protection to the sensitive glans penis; and to entirely remove this leaves a very delicate organ open to considerable local irritation. This condition, to my mind, is almost as bad as the original one for which the operation was performed—often being the prime cause of masturbation and kindred ills.

A point in operating to be strictly observed, and which is noted in most works on surgery, is always to enlarge the upper border of the preputial orifice by a small "V"-shaped incision (or excision), so that the prepuce may easily be retracted back of the corona of the glans penis. This insures cleanliness and abundant opportunity to prevent accumulation of smegma.

The steps and technique of this operation are laid down amply in works of surgery. Two rules have been followed in my recent operations. Never to use cocain anesthesia, for whenever it has been used primary union was not obtained; and to always use

the interrupted suture, as it holds the parts in better apposition than the continuous does.

The history and symptoms of phimosis vary considerably. It may be acquired or congenital; in the present instances the latter condition is found. It is to call your attention to the variety of sequelæ, and to further urge my plea for an early operation, that the following cases are quoted briefly from my notes:

Case 1.—John L., age 2 months. Had suffered from incontinence of urine almost since birth. The patient was under medical treatment with no good result. When the child was first seen the prepuce was over an inch longer than necessary to cover the glans. The glans was purplish in color, the meatus swollen and irritated, and the entire interior of the prepuce was moist. Operation was done under chloroform anesthesia. At present writing the patient is 5 years old, and no sign of operative measures can be detected; the foreskin can be easily retracted, and when pushed forward it covers the glans almost to the tip; leaving a free opening for the meatus, with no chance for dribbling of urine into the prepuce. Urinary incontinence ceased from day of operation without further treatment.

Case 2.—Harry R., age 4 months. Since birth patient had had to strain when urinating. No physician had been consulted about his case until seen by the writer. The end of the penis looked like a toy balloon, and inquiry elicited the statement that it had "often looked like that, but always got well." The prepuce was elongated and its orifice was so small that it became easily agglutinated together, thus forming a sac into which the child urinated. The infant was suffering intensely, and the penis was much swollen. A puncture at the site of the preputial orifice allowed the accumulated urine to escape, and the following day an operation was performed with favorable results.

Case 3.—John McL., age 2½ months. Had been peevish and fretful since birth; he seemed to be wasting away. Every time he urinated there would be a small evacuation from the bowels. Occasionally for twenty-four hours there would be retention of urine. Examination showed the meatus to be very much contracted by the adhesions of the preputial membrane to the entire glans, some fibrous bands crossing the meatus. The two parts had become so closely agglutinated that the adhesions could not be separated by traction as in most cases, but it became necessary to do a delicate dissection with a scalpel. After operation the patient gained in flesh, was less peevish, retention of urine ceased and bowels became regular without further treatment.

Case 4.—Milton S., age 2 months. This child also had fecal discharges whenever he urinated. He always strained so forcibly when urinating that the attention of the family physician was called to the matter. Finding the prepuce elongated and contracted, he made a dorsal slit when the infant was about three weeks old. The child improved for a few weeks, when the old trouble again manifested itself. The patient, when first seen by the writer, had the appearance of a case in advanced stages of marasmus. The dorsal incision had caused a cicatricial contraction of the prepuce, and the orifice, instead of being directly opposite the penile meatus, was above it and over the top of the glans; thus causing the child to urinate into a pouch which was never completely emptied, and which when filled would allow the urine to escape slowly through the dorsal slit. This undoubtedly kept up a constant irritation and caused the patient's fretfulness and sleeplessness. The frenum was ulcerated from prolonged contact with the decomposing urine. Operation was successfully performed, and the child —now 9 months old—is stout and healthy.

Case 5.—Arthur K., age 5 months. He suffered from constipation almost since birth, and occasional retention of urine. Otherwise seems healthy and very fat. I had tried with only temporary benefit to relieve his constipation by laxative foods and remedies. The father called my attention one day to the child's prepuce, asking me if it was "natural to be so long?" Examination showed it about one and one-half inches longer than was necessary, and also several adhesions to the glans. An operation was advised; and to oblige the parents cocain anesthesia was used. Thirty minims of a 4 per cent. solution was injected hypodermatically and applied externally. Before more than two or three stitches were passed the effects of the drug wore off, and the child became restless and evidently suffered so much pain that no more stitches were inserted, and the parts were allowed to granulate. The bowels acted well the next day without medicine, and urine was passed in larger quantity. The mother was instructed to pull the foreskin back of the corona two or three times daily to avoid cicatricial contraction. This she did for about a week, and thinking everything was going well she desisted. A couple of weeks later —about one month after operation—the child was brought to my office with the old complaint of constipation. The preputial orifice was found so contracted that it could not be pushed back of the corona. Dilatation was practiced daily by means of introducing a pair of forceps and opening them as far as possible without causing too much pain to the patient, thus stretching the cicatricial tissue. This worked admirably; and now, for some nine months after the operation, the child's bowels have acted regularly without physic.

To further illustrate the influence that phimosis has on the nervous system, brief mention of two adult cases selected from my notes may not be amiss:

Case 1.—The first is that of a young man, age 18 years, since infancy an epileptic, having from one to three attacks weekly. After an operation for the relief of his phimosis the attacks became less frequent—sometimes only one in two or three months. Four years have elapsed since the operation and his condition continues to improve.

Case 2.—Is that of an adult 35 years old, who had complained of an intense pruritus scroti et perineii for over a year—the parts were badly excoriated, due to the patient's scratching. A pronounced phimosis was found, and an operation for its relief was followed by a complete recovery. This latter case opens a new field of thought. Though married for several years, his union had been fruitless; within three months after the operation his wife became pregnant. Whether his phimosis interfered with the proper ejaculation of the seminal fluid is more than the writer would venture to assert.

While well aware that the majority of authors have stated that as the child grows to puberty the penile organ enlarges, the prepuce contracts, and as priapisms occur the adhesions to the glans will be severed; yet experience has taught me differently. For every adult I have operated upon has presented very firm adhesions which in many cases required cutting to loosen, while in infants the adhesions were with one exception easily separated with the fingers, leaving no bleeding surfaces.

If the elongated prepuce is the source of trouble why should we wait too long before operating? While we are dallying with the case the child becomes more fretful, nervous and sleepless; and cases are recorded where chorea has developed from this cause.

An early operation for the removal of the redundant prepuce—allowing only for proper covering of the glans, yet permitting easy retraction for cleanliness—will relieve the child of a great source of irritation, and indirectly improve nutrition; changing a fretful, puny baby into a thriving, happy infant.

THE IMPORTANCE OF EARLY EFFECTIVE ELIMINATION IN THE ZYMOTIC DISEASES OF CHILDREN.

Read in the Section on Diseases of Children at the Forty-fourth Annual Meeting of the American Medical Association.

BY J. A. WORK, M.D.

ELKHART, IND.

The physician who has the ambition to keep pace with the advance of his chosen profession, and learns with delightful anticipations the most approved and modern remedy for the special disease in question—with its therapeutical application in detail—will in a great measure fail of the desired end, if he loses sight of the very important fact, that he has a system—a body of many members—to treat, as well as a disease to combat. A system already in a patho-

logic condition, and was so, as, in a majority of cases, even prior to the inception of the specific zymotic poison.

When we are interrogated, why all children equally exposed to a certain contagion, do not contract the same? we answer that those who are not affected are in good habit of system; their blood is pure; they are in a healthy condition; by which expressions we mean to say, that the system is in a normal physiologic condition, and thus the poison finds no nidus of effete matter; in fact there is no soil for its propagation.

I recently had a case of scarlatina that illustrates the point in question.

A mother, 23 years of age, nursing her child, 20 months of age; the disease had manifested itself thirty-six hours prior to my first visit; tonsillitis severe, with much ulceration; eruption complete and fever high. Active elimination at once instituted through all the emunctories; commencing with a dose of castor oil, followed within one and one-half hours by a water enema, and as soon as a thorough evacuation was secured, a complete general scrubbing with soap and water, in a very warm room, was given. After patient was put to bed, her room and adjacent rooms were thoroughly aired, and throughout the course of the disease the air of the rooms was changed once an hour. We secured an evacuation of the bowels, and had surface of body sponged every twelve hours, as long as fever continued. The disease run a normal course. Patient recovered. The attendant was instructed to allow the *child* to continue to *nurse* the mother, and supply the deficiency by easily digested food. It was to have an evacuation of the bowels twice a day at least, and be sponged once a day. The child did not manifest *even* a symptom of disease. Prompt action as to elimination in case of the mother, was not only a large factor as means of cure to her, but in connection with the care given to child, secured immunity for it.

As it is true, that a system thoroughly cleansed of all effete and residual matter, foreign to a normal physiologic condition, is thus rendered less susceptible to, if not entirely exempt from, the disease in question; is it not the most rational procedure in treating the little patient, as early as possible, to eliminate through all the channels and maintain a normal action of the eliminative organs throughout the entire course of the disease, whatever else by way of medication is necessary to meet all the indications in the case?

I believe that early effective elimination is the most important treatment of all zymotic diseases, and if employed early is, in many cases an abortive means.

It is true that, in a large majority of cases we do not see our patient until the stage of incubation is past, and the disease has manifested itself by the signs peculiar to the specific pathogenic microbes. The genetic soil has been carefully, or rather, carelessly prepared on the part of the attendants; for certainly careless pernicious habits and especially as to ingesta, play an important rôle in preparing the fostering soil necessary to a rapid and copious generation of bacilli. This preparatory pathologic work, favoring the disease, but decidedly detrimental to the physician's success in curing his patient, this far, has been accomplished without any knowledge on the part of the doctor; and thus he is not responsible; but from thenceforward his responsibility is very apparent. And now the question which engages his careful attention is, Can I not, even at this stage of development, as it were, root up and destroy the growths and remove even their soil, by early effective elimination to the extent of modification and thus secure, at least, an unaggravated case of the specific disease, which will run within its normal limits to a happy termination?

There are degrees of severity in all so-called zymotic diseases, and why is *this* a severe, and *that* a mild case of scarlatina, if you please? Were not both patients equally exposed to the disease germs? We are sure that the difference in severity is not due to a difference in quality of the infectious matter. Is it then due to quantity? Not necessarily so. Both patients were exposed at the same time, and the same length of time. Then the difference in degrees of severity is not in the quality, neither in the quantity of the infectious virus; but is due to the peculiar susceptibility of the patient.

Idiosyncrasy has some bearing as a factor in the matter, but a vitiated, depraved system, due to poor elimination, does more toward the production of *severe* cases in all zymotic diseases, than any other cause. Now if it be true that poor elimination prior to inception, and thus a retention of effete matter, is the most potent cause of the severity in any disease of the class in question, then we rationally conclude, that if the system is clean, aseptic at incubation, and this condition maintained through entire course of disease, we will have a mild form and a very satisfactory result.

By early elimination, we mean, that there should be no delay in arousing the eliminatory organs, not to depletion, but to a full, free, normal activity. And if prophylaxis comes within the scope of this subject I would suggest that, during an epidemic, the physician and his patron advise with each other, so that the earliest indication of the disease be met, and this important preliminary treatment, as it were, commenced before the system reaches a high degree of fermentation.

I am aware that much more could be written on this subject with profit, and it is not within the province of this short fragmentary paper to discuss the therapy of this class of diseases; but brief as this is, if it will elicit a discussion more worthy of the subject, I am content.

300 Division Street.

MENINGOCELE, WITH CASE.

Read in the Section on Diseases of Children, at the Forty-fourth Annual Meeting of the American Medical Association.

BY M. G. SLOAN, M.D.

DEXTER, IOWA.

The occurrence of pure meningocele is doubted by the most of our authorities. Conner says, (Keating's Cyclopedia of Diseases of Children): "If it occur at all, (and this is much doubted) it does so very rarely." Irving C. Rosse, (Reference Handbook of the Medical Sciences,) says: "The lesion is not yet sufficiently demonstrated to enable one to trace the symptoms, or even the diagnosis; on all sides it is admitted to be very rare, and some even doubt whether it exists."

I think it quite probable that the lesion is not quite so rare as the above quotations would indicate, because it is not an easy matter to certainly diagnose the condition even when present, and I have no doubt that in some instances, where no operation has been performed and no postmortem held, a diagnosis of hydrencephalocele has been made when meningocele really existed. In the case about to be narrated, the

lesion was supposed, up to the time of operation, to be hydrencephalocele. Before the days of aseptic surgery, the results of operation, in this unfortunate class of cases were so discouraging, so almost uniformly fatal, that very few surgeons had the temerity to attempt to do anything looking toward a radical cure.

I believe that with the resources at our command to-day, the prospect of success following the removal by the knife of these protrusions, is good; and as a reasonable basis for that belief present the following history of a case of pure meningocele:

The patient (female) was born on March 18, 1893, after an easy labor, weight six pounds. The mother was a primipara, and was in good health and spirits. Immediately after birth I discovered that there was a tumor in the occipital region about the size of a small hen's egg with a pedicle about one inch in diameter; the tumor was covered with apparently normal scalp, and was about as well supplied with hair as was the scalp proper. It was slightly reducible on firm and continued pressure, but the child became very uneasy when this was attempted. When the child cried the walls of the tumor became very tense, and the veins prominent. To the touch it seemed that the growth was divided indistinctly into two lobes of brain tissue surrounded by considerable quantities of liquid. Hence the diagnosis was hydrencephalocele. The anterior fontanelle was very large and the forehead abnormally high, indicating the presence of a moderate degree of hydrocephalus. The child nursed and slept well, but had gained nothing in weight, at the end of three weeks. At this time the tumor was perceptibly larger, measuring six and three-fourths inches in circumference. At the earnest solicitation of the parents, and after having explained to them the dangers of the operation, on April 13 I undertook the removal of the growth by excision.

Twenty-four hours previous to the operation the tumor and scalp in its vicinity were shaved, scrubbed with soap, and then with ether, and finally compresses of absorbent cotton wrung from a 1-4000 solution of corrosive sublimate were applied. Operation under chloroform anesthesia; a flap was dissected from the base of the tumor all around and reflected. An Esmarch's tourniquet was then tightly drawn about the pedicle, and the tumor excised as close to the tourniquet as possible. There was no perceptible effect on circulation or respiration, but the child's color was very bad, although this was noticed during the flap dissection, and before the tourniquet was tightened.

The contents of the tumor *were entirely liquid.* Not a vestige of anything resembling brain tissue was found. So that the diagnosis was necessarily changed from hydrencephalocele to meningocele. The sac was lined with extensions of dura mater and arachnoid. Nothing was found bearing any resemblance to pia mater. In spite of the tourniquet there was for a short time slight leakage of serum from within the skull, the opening in which would readily admit the end of my little finger. The tourniquet was allowed to remain under antiseptic dressings for twenty-four hours, when it was removed under chloroform anesthesia. Much to my disappointment, there was quite a flow of serum on its removal. I rapidly united the edges of the dura mater with continuous catgut suture and thus effectually stopped the leakage. As an additional safeguard a strong catgut ligature was thrown about the remains of the pedicle above the sutures. The ordinary dressings were put on. The little patient was in good condition at end of operation, and has progressed steadily and favorably ever since. At this writing, May 29, the operation wound is entirely well, with only a slight thickening of the tissues to mark the site of the growth. The babe has gained three pounds in weight since the operation, a little more than six weeks.

Dec. 4, 1893. At this writing the patient is well, weighing about fourteen pounds. Only a small hard cicatrix remains to mark the site of operation. Mentally she seems about as well developed as the average child of her age.

SELECTIONS.

PATHOLOGY OF LARYNGEAL TUBERCULOSIS.

An Original Translation from the "Klinischer Atlas der Laryngologie u. Rhinologie," of DR. JOHN SCHNITZLER of Vienna.

BY JAMES MOORES BALL, M.D.

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The late Prof. Schnitzler, at the time of his death, was engaged in the publication of an Atlas of Laryngology and Rhinology, with explanatory text. This work presents the latest views, extant in German-speaking countries, concerning the pathology of laryngeal tuberculosis. The following translation, it is hoped, will be of value to the busy practitioner and specialist.

TUBERCULOSIS OF THE LARYNX.

Tuberculosis belongs to the most frequent and also gravest class of laryngeal diseases, consequently a clear understanding of it is of great importance, and on this account we desire to make this chapter as complete as the limits of the work will permit.

Etiology.—There can be no question that most of the changes observed in the course of laryngeal tuberculosis are due to an invasion by tubercle bacilli.

Furthermore, it is questionable whether many superficial ulcers in the larynx, occurring in the course of a simultaneous pulmonary tuberculosis, are dependent entirely upon the eroding action of the sputa passing over the parts, or upon the influence of pyogenic cocci in the sputa. This opinion can not be entirely ignored, since the rapid healing of many such superficial ulcers justly calls in question the tuberculous character of the same.

On the other hand, it can not be denied at the present day, that the swellings and ulcerations observed in the course of laryngeal tuberculosis are, in some measure, the result of a secondary infection. E. Fränkel, by means of culture media and stab-cultures, has established the frequent occurrence of staphylococcus pyogenes aureus or streptococcus pyogenes.

Likewise, Hajek has demonstrated the frequent existence of grape-like and chain-like cocci in tubercular ulcers. It is probable that the acute edema, which sometimes occurs in the course of tubercular destruction, may depend upon secondary infection.

Those perichondritic processes resulting from laryngeal tuberculosis, which can generally be ascribed to a secondary origin, will be mentioned later.

With our knowledge of the infective cause, the etiology of laryngeal tuberculosis is by no means exhausted, since the question of greatest importance is: in what manner does the bacillus of tubercle reach the laryngeal membrane?

This question, however, is so intimately connected with another, viz., whether laryngeal tuberculosis be a primary or a secondary disease, that the answering of the latter must precede the entire discussion.

The preponderating number of cases of laryngeal tuberculosis is associated with pulmonary tuberculosis. Gener-

ally the tubercular changes commence in the lungs and, later, tuberculosis of the larynx is associated therewith. Often a laryngeal tuberculosis is the last act in the drama of general tuberculosis, and we are correct in saying, as a general rule, that the laryngeal is secondary to the pulmonary tuberculosis.

In like manner we must look upon those cases of laryngeal tuberculosis as secondary, in which tubercular change in the lymphatic glands, or tubercular caries of the joints, precedes the outbreak of laryngeal tuberculosis. Every experienced laryngologist has seen marked tubercular changes in the larynx in patients in whom not the slightest trace of pulmonary disease could be found. This experience, however, demonstrates nothing for the existence of a primary laryngeal tuberculosis, since, by the physical methods of examination, small central cavities are not easily overlooked. Much more importance is ascribed to the results of postmortem examinations, in which marked tubercular changes in the larynx were found without any discoverable lesion in other organs.

The assumption of primary infection of the larynx, from an etiologic standpoint, is very probable, since it is possible that dust laden with tubercle bacilli may be inspired, penetrate a spot deprived of epithelium, and produce tubercular changes in the depths. It is a question which has not been solved, whether this infection occurs in the manner related above, and if so, if it often occurs in that way.

Respecting secondary tuberculosis of the larynx, we know only this with certainty, that pulmonary tuberculosis very frequently leads to a similar process in the larynx.

The majority of observers at the present day seem to assent to the opinion first announced by Louis, that the secretion coming from the lungs infects excoriated spots in the larynx. This view assumed a more conclusive form with the discovery of the tubercle bacillus, since we may say that the tubercle bacilli contained in the pulmonary secretion gain entrance through the eroded epithelium of the laryngeal mucous membrane. That the retention of the secretion by the pouches of Morgagni favors the development of the infection upon the prominent vocal bands, can not be denied.

In addition to the explanation given above of the migration of the tubercle bacillus from the surface, there is another view which assumes that the transporting of the bacillus from the lungs to the larynx takes place through the blood vessels and lymphatics.

E. Fränkel, in a work which appeared recently, has defended in a very different way, the first of these theories, viz.: the immigration of tubercle bacilli from the surface of the mucous membrane. He believes the origin of tubercular ulcers in the larynx can be traced wholly to the penetration of the surface by tubercle bacilli. Without denying the possibility of this occurrence in isolated cases, we will mention the following reasons for the acceptance of the theory that tubercle bacilli are propagated by the channel of the blood and lymph vessels:

1. We often meet with cases, in the early stage of pulmonary tuberculosis, where the sputum can scarcely be said to contain bacilli, yet there is already an extensive tubercular infiltration of the larynx. In such cases the sputum could scarcely have infected the laryngeal mucous membrane.

2. We often have the opportunity of seeing cases of extensive and rapid pulmonary necrosis where there is not the least tubercular infiltration of the larynx. There can be no question that, in these cases, the larynx is almost always the seat of catarrhal processes with loss of epithelium; nevertheless tuberculous infection does not occur.

3. The correspondence of the diseased side of the lung with that of the larynx has been observed frequently, and was first announced by Friedreich, Türck and Schnitzler. This observation has been so often made that it is difficult to attribute it to accident; it also demonstrates a direct communication through lymph and blood vessels.

4. It was announced first by Heinze, then by Korkunoff, and later was confirmed by Hajek and proved by microscopic preparations, that very frequently a stratum of unchanged tissue is found between the tubercular layer and the superficial epithelium; and this circumstance leads to the opinion that tuberculosis is wont to commence in the depths of tissue and extend toward the surface.

While we can not deny the primary transportation of tubercle bacilli through inhalation of dust, and the infection of the epithelium through the pulmonary secretions, nevertheless we must look upon the majority of cases of laryngeal tuberculosis as the result of pulmonary infection transported to the larynx by means of lymph and blood vessels.

Whether this view furnishes an anatomical basis for the anemia and paresis often present at the beginning, and in the course of laryngeal phthisis, is questionable. Investigations on this point can not be made, for the reason, that, after death, all such symptoms are lost. Likewise, it is improbable that the catarrhal changes, accompanying tubercular processes in the larynx, depend upon a specific tubercle-producing cause, since these catarrhal appearances may persist, as already mentioned, without tubercular changes in the tissues becoming manifest. That this catarrh sometimes disappears entirely, is a further proof that it is not the expression of a tubercular infection.

So far as anatomico-pathologic investigations and observations with the laryngoscope show, every known tubercular change in the larynx begins with an infiltration, which, histologically as well as bacteriologically, is to be regarded as a specific neoplasm dependent upon the immigration of tubercle bacilli. The theory, which is still defended by many, that the destructive changes in the larynx occurring in the course of phthisis originate in a purulent follicular catarrh of non-specific origin, can no longer be regarded as correct, in view of our present knowledge. It can not be denied, however, that many superficial losses of substance may result from the corroding action of purulent secretions. Surely, these never lead to extensive destruction. It is probable that superficial laryngeal ulcers, which rapidly heal under antiseptic treatment, belong in this category.

The tubercular infiltration of the larynx, which we must assume to represent the earliest visible sign of tubercular infection, is to be considered the first stage of laryngeal tuberculosis. The amount of infiltration does not depend solely upon the extent of the process, but rather upon the abundance of submucous cellular tissue in some parts of the larynx, and its paucity in others. In the ary-epiglottic folds and mucous covering of the arytenoids, as well as on the lingual surface of the epiglottis and the sub-glottic tissues, the infiltration may reach a considerable size; much less extensive is the infiltration of the false vocal bands, although there is considerable infiltration in this spot. On the posterior extremities of the true vocal bands, on the inner surface of the arytenoids, as well as on the lingual surface of the epiglottis, the infiltration is never of great extent.

Macroscopically, the tubercular infiltrate presents itself as a uniformly smooth, rarely irregular, swelling of some part of the larynx, whose surface, when not accidentally complicated with an acute catarrh or edema, shows a whitish or pale-red color; what is always particularly noticeable is the dull, lusterless tone of the surface, which is found in so pronounced a form in no other infiltration. Not rarely do we see on the surface of the infiltrate a peculiar opaque discoloration and scaling of the epithelium, frequently situated on the inter-arytenoid mucous membrane and on the posterior ends of the vocal bands, where the surface of the infiltrate is most exposed to mechanical injury. This change is to be regarded as a pachydermia. We have observed similar pachydermoid changes in infiltration of the inter-arytenoid mucous membrane lasting for many years before an irruption of tubercular products appeared.

In the beginning, tubercular infiltration involves, in most cases, only a circumscribed part of the larynx; and it is only in the rarest instances that the entire larynx is the seat of infiltration from the beginning. Usually those parts which are supplied by the same division of sub-mucous cellular tissue are involved simultaneously.

If the infiltration of the cellular tissue reaches a high degree in a circumscribed spot, a true tumor may be formed with tubercular contents. These tubercular tumors were first observed and described by Schnitzler. The tumors look as if the mucous membrane were drawn over them, and this appears either smooth or granular from the tubercles lying in clusters. The tumor is generally single, rarely do they appear in several spots at the same time. Its favorite location is in the pockets of Morgagni, the space between the vocal bands; the size may equal that of a hazel nut.

In order to receive a correct idea of the nature of tubercular infiltration, and to know the extent and manner of development of ulceration following infiltration, it will be necessary to study the microscopic nature of tubercular infiltration. A microscopic section through the infiltrated tissue shows the presence, under a comparatively normal epithelium, of a thick cellular infiltration, which very frequently is diffuse; sometimes, however, shows in certain spots an accumulation which mainly consists of epitheloid

cells and often contains giant cells, as well as genuine tubercles. Nevertheless, it not rarely happens, as Heinze has observed, that, between the epithelium and the upper surface of the tubercular mass, there exists a layer of normal tissue which is free from cellular infiltration and shows but few leucocytes. We heartily agree with Heinze that such microscopic sections go to prove that the tubercular process extends from within outwards, and not vice versa. This being true, we can not understand why the tubercle bacillus, when it finds its way through the thin epithelial coat into the tissues beneath, should produce tubercular infiltration in the deeper parts first, instead of in and beneath the epithelial coat.

When a section is properly stained, bacilli are visible in the tubercles. The number of bacilli is very variable, and often bears no relation to the extent of the infiltration. So long as the infiltrate does not ulcerate, no other kinds of bacteria are present; it is in an ulcerated infiltrate that we first observe staphylococci and streptococci.

B. Fränkel has found tubercle bacilli in the substance of the epithelium covering the mucous membrane, although as a rule, in the first stage of infiltration, bacilli are to be found only in the tubercular infiltrate lying under the epithelium.

While, in the beginning of tubercular infiltration, the superficial epithelium still presents a normal appearance, degenerative changes occur in it, just in proportion as the tubercular infiltrate reaches the epithelial coat in a diffuse or a circumscribed spot; at first we notice a loosening and discoloration of the epithelium; next there is a complete separation of epithelium in one spot, and the tubercular infiltrate begins to grow luxuriantly in the direction of the surface. From this stage we can date the commencement of ulceration. It is here necessary to call attention to a point of great importance to beginners in laryngoscopy. They often do not understand that we mean an ulcer when we speak of an infiltrated spot of laryngeal mucous membrane where granulations project. The current definition of an ulcer, anatomically and pathologically speaking, is identical with a loss of substance, and hence it is somewhat unusual to speak of a plainly visible thickening of tissue as an ulcer. We must remember, however, that the origin of most tubercular ulcers bears a similarity to a neoplasm, where first there is a considerable increase of tissue, then rupture of the overlying layers, followed in the last stage by a pushing out of masses of new tissue.

After the irruption of the tubercular infiltrate, the surface of the previously infiltrated, but smooth spots, assumes an irregular, knob-like appearance. These granular formations resting on a tubercular base may become so abundant, in circumscribed spots, that they form tumors of considerable size, which, when present in large numbers, may almost close the glottis. This excessive formation of tubercular granulations most often occurs on the inter-arytenoid mucous membrane, on the true and false vocal bands, and more rarely on the petiolus of the epiglottis. We may designate such an infiltrate as tubercular granulation tumors; they differ from the early-formed neoplasms in this, that unlike the latter they are not covered with mucous membrane and epithelium.

With the breaking forth of tubercular granulation tumors the stage of necrosis commences. The granulations have only a low vitality and rapidly succumb to regressive metamorphosis, by which some of them are absorbed, and others are newly developed. During the time that the generation of new cells does not keep pace with the necrosis, peculiarly cleft excrescences, with irregular projecting points, result therefrom and bear the greatest similarity to a necrotic neoplasm. The rapidity with which destruction of granulation tumors takes place is very different in different cases, and is generally dependent upon the course of the case; while in many cases we may observe this ulcerating granular condition of the mucous membrane, lasting for several weeks, in others we find, almost from day to day, a change in the form and distributions of the elevations and depressions, while necrosis and regeneration take place with great rapidity.

While there is an extension of sub-mucous infiltration with deposits toward the surface, there is at the same time an advance of the infiltrate in the deeper layers; so, little by little, the entire sub-mucous layer is infiltrated, the glandular layer is changed into a stratum of granulations, and in places, where the mucous membrane covers the cartilage, the perichondrium also is involved.

The question whether a tubercular infiltrate may begin primarily in the perichondrium, can not be answered at present. In favor of such a condition is the fact that many infiltrates are met with in the vicinity of the arytenoid cartilages, and lead early to immobility of the crico-arytenoid joint.

The question, however, has no practical interest, since it makes no difference whether the perichondrium, which is almost always involved in a later stage, should become primarily involved by the sub-mucous deposit. In either case we find the perichondrium eroded and covered with granulations, and that the cartilages are always the seat of necrosis. Very often the perichondritis occurring in the course of tuberculosis assumes an acute character, whereby suppuration, with partial or even complete necrosis of cartilage results.

In our experience, the most frequent form of perichondritis is the purulent, which results from secondary infection of an ulcer with some sort of bacteria (streptococcus or staphylococcus). The comparatively short time in which suppuration of the crico-arytenoid joint takes place is in favor of that theory.

While almost all authors refer the origin of tubercular ulcers to infiltration, there are others which are designated as "aphthous" ulcers. Exactly what one should understand by such ulcers, has not been clearly defined by anybody. There can be no doubt that under this name different conditions were confounded. The broad flat ulcers which are found upon the false vocal bands, and which show numerous elevations and depressions, by which they were likened to a sieve, and were named aphthous ulcers, are regarded as arising from infiltration. The peculiar appearance arises from this: that upon the false vocal band the infiltration often extends diffusely, and all at once the whole surface is ulcerated and appears granulated. That this ulcer on the false cord is due to direct infection of the epithelium, which is generally conceded to be the case, is proved neither anatomically nor laryngoscopically.

In the course of laryngeal tuberculosis, particularly in cases which are of a high grade, shallow ulcerations often occur with a dirty-grayish covering. These ulcers are to be attributed to direct infection by the pulmonary secretions. However, as previously stated, it is questionable in many cases whether these ulcers are really tubercular or are nothing more than corrosion ulcers produced by the eroding action of the sputum. The fact that this kind of an ulcer often heals with great rapidity causes us to doubt its tubercular origin.

Ulcers similar to those just mentioned often occur upon the processus vocales of both vocal bands in the course of a genuine tuberculosis.

On the whole, we must admit that the pathogenesis of tubercular ulceration of the larynx is not entirely understood.

Regarding the presence of bacilli in tissues the seat of tuberculosis, it is to be noticed that the copiousness of bacilli is very variable. Whilst in a case of granulation masses, bundles or nests of bacilli are visible, in other cases bacilli are present only sparingly. Likewise, the histologic structure is not the same, since, in some cases, we find only granulation tissue; in others we find on microscopic section an abundance of tubercles with round cells undergoing regressive metamorphosis.

Mercurial Treatment of Tabes Dorsalis.—"Dinkler." Reviewed by V. Noorden, Munich. This interesting report details seventy-one cases of tabes collected from Erb's clinic and from private practice, all of which received mercurial treatment. In fifty-eight cases there was improvement of one or more of the symptoms while eleven seemed to be aggravated rather than benefited thereby, especially two cases in which the symptoms became decidedly worse. In these last two, there were indications of brain lesions, involving the arteries and meninges.

The results emphasize the importance of the Fournier-Erb's anti-syphilitic, mercurial treatment in tabes dorsalis; at all events it disproves the objections made, as to its bad results.

In the fifty-eight improved cases mentioned above, the following favorable changes were noted, viz.: the sensory disturbances were improved, as manifested by the entire disappearance of the feeling of constriction or girdling pains, sense of cold, and of the tingling and creeping

sensations, etc., or by lessening of their intensity or lengthening of the intervals. The lancinating pains became milder or entirely disappeared.

Improvement was often noticeable in many of the other sensory disturbances. (Zones of hyperesthesia and of diminished sensibility, became smaller or disappeared entirely.) Improvement of sensibility was quite rapid. As regards coördination and motor disturbances, there was apparent diminution and complete disappearance of the ataxy, which seemed to run a course quite independent of the sensory symptoms.

More favorable still were the effects on the motor disturbances, from that of slight fatigue to a high grade of paresis.

In regard to the tendon reflexes, the symptoms were either temporary, or permanent improvement followed.

The atrophy of the optic nerves was favorably affected, as were also the functions of bowels, bladder and sexual organs.

Finally, it should be emphasized that the mercurial treatment of tabes, as well as in cases of secondary syphilis, seems to lessen the destructive metabolism and benefits and increases nutrition.—From the *Centralblatt für Chirurgie*, November, 1893.

Pleurisy with Pneumonia—Para-pneumonic Pleurisies.—H. SCHLESINGER, Vienna.—G. Lemoine has during a year's observation, encountered seven cases in which pneumonia and pleurisy developed simultaneously. As such pleurisies presented peculiar characteristics and seemed to be of clinical importance, the author has named them "para-pneumonic pleurisies." The name is to indicate that the pleurisy does not follow the pneumonia, but appears simultaneously with it. The difference according to Lemoine from "meta-pneumonic pleurisies is that when the pleuritic inflammation appears at the same time with the lung affection, we have to do only with the local manifestations of a general infection. The pleurisy which sets in at or near the close of the pneumonia is caused (or may be caused) by a kind of re-infection with the pneumococcus.

The most important differential point lies in the fact that whereas a "para-pneumonic" exudate frequently becomes purulent, the meta-pneumonic exudate seldom does.

From among 120 cases selected by Lemoine from literature, he finds only thirteen accounts of development of pneumonia and pleurisy, in which the exudate was purulent.

In the cases there existed serious complications such as variola, influenza and puerperal diseases.

The disease attacks mostly young adults, both sexes being about equally affected. Complications are frequent. In twenty-six cases of pneumonia treated by Lemoine, seven were affected.—(From *Centralblatt für Klinische Medicin*, November, 1893.)

Cetrarin.—Cetrarin has been employed in chloro-anemia and gastric troubles of hysteria.

There is an increase in the number of globules, and coloring matter which can not be carried beyond a certain point, but which perhaps can be continued by the aid of iron. General improvement is still more notable; the acidity of the stomach contents is augmented. It is well tolerated, but it often produces constipation.

BOOK NOTICES.

The Principles and Practice of Surgery. By JOHN ASHHURST, JR., M.D. Barton Professor of Surgery and Professor of Clinical Surgery in the University of Pennsylvania; Surgeon to the Pennsylvania Hospital; Senior Surgeon to the University Hospital and to the Children's Hospital; Consulting Surgeon to the Woman's Hospital, to St. Christopher's Hospital, etc. Sixth edition enlarged and thoroughly revised with a colored plate, and 656 illustrations in the text. 8 vo. cl. pp. 1,166. Philadelphia: Lea Brothers & Co. 1893.

One can not help picking up a new edition of this old favorite without a feeling of pleasure, like that of unexpectedly meeting an old friend. In this edition there is an excellent chapter on surgical bacteriology by Dr. C. B. Nancrede, which is about the only feature of the work that will strike the reader as materially differing from former editions. The pathology in general does not bring the text to the accepted standard, and in modern practice the recent procedures are not mentioned. The author knows what tuberculosis is, for he correctly describes it on page 471, but one looks in vain for the application of that knowledge in the chapter on diseases of the joints. Iodoformization is not mentioned as a means of treatment. In excision of the hip, temporary resection of the trochanter is not mentioned, and indeed the only case where osteoplastic resection is mentioned is in the operation for removal of rectum. The uses of osteoplastic resection in trephining, in caries of the external table; of the acromion; or the tubercle of the tibia; are not mentioned, but a foot note on page 682 says that "Bruns, Trendelenburg and Volker recommend temporary resection of the olecranon."

The author advises no interference in cases of sacro-iliac disease, neither iodoformization, nor through drainage, the latter long ago introduced by Sayre, is not mentioned as a therapeutic resource in this affection. In treatment of club-foot, the method by brisement forcé, is not mentioned, nor is that of any of the mechanical appliances for stretching, such as are figured in Bradford and other works on orthopedic surgery. In skin grafting, the method of Reverdin is mentioned and also that of Thiersch, but the latter method now generally used by advanced surgeons is not described. In partial occlusion of the anus the author does not speak of the modern operation of bringing the divided rectum to the incision and there fastening it.

The truth seems to be that our author has failed to revise the book so as to include the really recent methods as practiced in most college clinics, and if one wishes to keep pace with modern surgery he must seek information elsewhere.

A Practical Treatise on Materia Medica and Therapeutics. By ROBERTS BARTHOLOW, A.M., M.D., LL.D., Professor of Materia Medica, General Therapeutics and Hygiene in Jefferson Medical College, etc., etc. Eighth edition, revised and enlarged. Cl., 8vo, pp. 820. New York: D. Appleton & Co. Chicago: A. C. McClurg & Co. 1893. Price, $5.00.

When a book passes to its eighth edition, it would seem that critics should be silent and recognize that the public had already passed judgment upon the book. The author was a member of the Revision Committee which revised the last Pharmacopeia, and he has therefore made this work to correspond with the changes. He has, however, admitted the new synthetical products. In regard to the decimal system the author says:

"As the new Pharmacopeia has employed the metric system in its weights and measures, it becomes necessary for all systematic works treating of materia medica to follow its example. That my readers, unacquainted with the metric system, may have no difficulty, I have added in a brief appendix a tabular statement of the equivalents of weights and measures from one Troy ounce down."

A more striking way of making the decimal system unpopular could not have been chosen. What is needed to insure that readers "unfamiliar with the metric system shall have no difficulty," is to print the dose of each drug in metric terms; no complicated "rule for conversion" or comparative tables will then be necessary. A metric posologic table is worth a volume of tables for conversion.

Inebriety: Its Causes, its Results, its Remedy. By FRANKLIN D. CLUM, M.D. Third revised edition, pp. 248. Philadelphia: J. P. Lippincott & Co. 1892.

This little book discusses in a popular way the cause and treatment of inebriety, and the whole book is practically devoted to the question, "Shall we give the drunkard our sympathy or our condemnation?" The author writes scientifically, entertainingly and sympathetically about the unfortunate inebriate, and the book will be found of much value in the study of the question, especially the popular side of it.

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This is obtainable, at any time, by a member of any State or local Medical Society which is entitled to send delegates to the Association. All that is necessary is for the applicant to write to the Treasurer of the Association, Dr. Richard J. Dunglison, Lock Box 1274, Philadelphia, Pa., sending him a certificate or statement that he is in good standing in his own Society, signed by the President and Secretary of said Society, with five dollars for annual dues and subscription for THE JOURNAL. Attendance as a delegate at an annual meeting of the Association is not necessary to obtain membership. On receipt of the above amount the weekly JOURNAL of the Association will be forwarded regularly.

All members of the Association should send their Annual Dues to the Treasurer, RICHARD J. DUNGLISON, M.D., Lock Box 1274, Philadelphia, Pa.

SATURDAY, DECEMBER 9, 1893.

TREATMENT OF UTERINE FIBROIDS.

Until recently it has been taught that fibroid tumors of the uterus were comparatively harmless to their bearers, a source of inconvenience for a few years on account of hemorrhage and possible pressure, but the menopause was a haven of rest toward which the sufferer might look for relief from the bleeding and weight of her burden. With the increased knowledge of pelvic disease came the unpleasant fact that not all fibromata are harmless after the change of life, that shrinkage does not always occur, but that on the contrary the tumor in some cases continues to grow, at times with an added impulse. Hemorrhage, too, does not invariably cease and, worse than all, retrograde changes are often at work transforming a benign growth into a menace to life.

So long as the tumor was regarded as harmless it was considered sufficient to tide the patient along with palliative measures, ergot, muriate of ammonia and kindred drugs, trusting that nature would do what the doctor could not do—bring relief. With the advance of abdominal surgery half-hearted measures could no longer be tolerated, and patients demanded that the surgeon bring them speedy relief in words that could not be misunderstood.

At the present time, three methods of cure are presented to the profession, each with strong advocates—the application of electricity to the growth, the induction of premature menopause by removal of the ovaries and tubes, and the removal of the tumor, either with or without the removal of the uterus and its appendages.

While each method may be said to possess certain advantages, yet that one alone which removes the tumor can be called curative in the true sense of the term. Electricity has to a great extent fallen short of the claims advanced for it and is conceded now, by many who have formerly advocated its use, to be simply and purely palliative. The shrinkage in the size of the tumor which was said to follow its application in every case has been shown to be only rarely accomplished. Electro-puncture is proved to be positively harmful, one author going so far as to declare that it is attended by more risk to the patient than is hysterectomy in skilled hands. The cure is only symptomatic; without doubt the pain and hemorrhage are relieved, but electricity accomplishes little more than the older treatment by ergot, and muriate of ammonia—the tumor is still present to harass by its weight and to menace the future health of the patient by retrograde changes.

The removal of the ovaries with the intention of causing a cessation of the hemorrhage and a diminution in the size of the growth by bringing about the menopause, is open to the objection that it fails to accomplish the desired end in a few cases, just as the change of life itself, when occurring in the course of nature, fails. Then too the ovaries and tubes may be (and often are) so situated in relation to the fibroid as to change the operation from a simple procedure to one so difficult that total hysterectomy gives the patient much the better chance of recovery.

There remain, therefore, only the removal of the growth without the uterus, myomectomy, and the extirpation of the tumor together with the uterus. Myomectomy possesses an advantage which none of the other operations have, that of leaving the uterus, however crippled, in such condition that the patient may bear children; but, in view of the fact that in most instances the appendages are so diseased as to make the hope of offspring futile, the operation loses much of its superiority over other methods of treatment. It has, however, been performed with success and is particularly applicable to subperitoneal growths and such tumors as can be enucleated without opening the uterine cavity, particularly in young women.

Hysterectomy is without doubt the operation with the widest range of usefulness, and to the perfecting of this, the attention of abdominal surgeons is at present directed. Their ranks are, as it were, divided into two great companies—the one advocating the extra-peritoneal operation by means of the nœud, and the other the intra-peritoneal method, dropping the stump as in ovariotomy. At present the advantage of statistics is in favor of the nœud, but perfection of technique may cause a change in this respect. At first glance, the nœud seems to be a relapse into older and cruder notions, while the intra-peritoneal method certainly is more scientific and approaches more nearly ideal surgery. With the nœud the operation is less bloody and requires less time for its performance than the intra-peritoneal procedure, which factors alone may be suffi-

cient to turn the scale in favor of recovery in a patient exhausted already by hemorrhage.

The operation by means of the nœud is not always a simple procedure. A pedicle must be made if one does not exist, and to do this may severely tax the surgeon's resources. To leave a pedicle as the size of the surgeon's arm and inveigh against the operation is simply for the operator to confess that he is not equal to the demands upon his skill. A pedicle can be made and should be, or the operator must turn to some other means of relieving his patient. It is claimed by its opponents that the nœud is responsible for more post-operative herniæ than the other method. On this point there is great need of honest, straightforward experience with less theorizing.

Be the method what it may—and each operator will cling to that which in his hands is followed by the greater number of recoveries—the great element in the surgical treatment is time. It is a self-evident proposition that the smaller the tumor the greater the prospect of recovery. The practitioner of to-day would hardly be satisfied to allow an ovarian tumor to enlarge to the size of those formerly seen, and the arguments in favor of the removal of ovarian growths while small are equally forcible when applied to uterine fibromata. Let the general practitioner fully understand the dangers of delay and the statistics of hysterectomy will become better even than they are now. A great advance in the saving of life has been made, but a still greater is possible if the general practitioner will recognize his responsibility in this as he has in other pelvic diseases.

SOME OLD STORIES.

During the past two weeks the editor of this JOURNAL has been confined to his room on account of a severe attack of bronchitis. While sitting by the fire one day and looking at his book shelf, his eye fell on some old and worm-eaten volumes from which the title was nearly effaced, but which on close inspection proved to be the "Histoire de L'Anatomie et de la Chirurgie," Par M. PORTAL, Paris, 1770. During a temporary lull in the rasping cough, the editor read from old ANTOINE PORTAL, a part of the first book, a running translation of selections of which he thought might interest others besides surgeons:

"MELAMPUS is the first to whom is attributed medical writing. He lived about the year of the world 2705 (1,380 years before JESUS CHRIST); was born at Argos, of AMITHAON and ALGAIDE or IDOMENA, the daughter of ABAS. MELAMPUS was a shepherd, and the two daughters of the king of the country falling insane, he was called and caused them to be purged with hellebore, and frequently bathed in a certain well which cured them."

There was apparently nothing slow about MELAMPUS in the matter of getting his fee, for PORTAL says that,

"He asked for and obtained a slice of the kingdom for himself and one for his brother BIAS, and they espoused the two daughters,"

and lived happily ever afterwards, we presume.

PORTAL attributes two books to MELAMPUS, but no less an authority than DR. WM. SMITH places them to the credit of another MELAMPUS.

"The Druids," says PORTAL, "existed in Gaul at the same time as MELAMPUS. They were at once priests, judges and physicians, and inhabited the forests for which they had a superstitious veneration." They thought well of oak mistletoe as a medicine, "regarding it as a remedy against sterility and poisons."

EMPEDOCLES, who was a pupil of PYTHAGORAS, attained such perfection in anatomy and physiology, that he desired to be enrolled among the gods, and when about seventy-seven years old, to make posterity sure that he had been carried to the skies bodily, he threw himself into a volcano.

DEMOCRITUS was born at Milet, the third year of the seventy-seventh Olympiad. He was a great traveler and vivisector, and made himself obnoxious to the neighbors by his dissections. Some young men in ghostly apparel tried in vain to frighten him, and they then concluded him to be insane. HIPPOCRATES was sent for; he remained all night and was charmed with DEMOCRITUS' knowledge of anatomy and scientific attainments generally, and in the morning rebuked the mocking neighbors. PORTAL here tells a story about a young woman who was with the followers of HIPPOCRATES on that occasion, which it would be highly improper to translate.

DIAGORAS was a servant of DEMOCRITUS by whom he was taught medicine, and on the death of DEMOCRITUS, he become famous as a physician and as an atheist:

"Going one day to a hotel, while waiting for his dinner, he took a wooden statue of HERCULES, and threw it in the fire with the words, 'HERCULES will to-day boil our pot.'"

The hair of the innkeeeper probably stood on end at the sacrilegious act, but we have no account showing that the dinner was any worse.

EURIPHON was a physician of Cnidos, quoted by HIPPOCRATES, who was represented by PLATO's character of CINESIAS, son of EVAGORAS as

"Thin as a skeleton, with a chest full of pus, the thighs like a reed, and all the body covered with scars, which EURIPHON had made in burning and in a word, by phthisis and empyema consumed."

It shows that the actual cautery was used for opening empyema before HIPPOCRATES.

Of PLATO, who like all the older Greek philosophers taught medicine as a branch of philosophy, he repeats the story, that his name was originally ARISTOCLES, "which he quitted, to take that of PLATO, either on account of the breadth of his shoulders, or the breadth of his forehead, or the ample and diffuse style of his writings."

CRITOBULUS who lived a little after, was the surgeon of KING PHILIP of Macedon.

"He was very fortunate in extracting from the eye of that Prince a piece of an arrow which had wounded it, and the cure was completed in such manner, that PHILIP had no disfigurement."

"ARISTOTLE," says PORTAL, "when asked by KING PHILIP to take charge of the education of his son ALEXANDER, "sent him a letter too flattering to be omitted."

"PHILIP to ARISTOTLE, salut: 'I thank God not less for having given me a son, than that he was born in a time, when he can be taken to receive your instructions. I hope that, raised by you, he will render himself worthy of the blood of which he sprung and of the monarchy to which he is destined.'"

ARISTOTLE was an excellent anatomist, and although borrowing much from HIPPOCRATES, he added a great many names to anatomic nomenclature. "He spoke of the intestine jejunum; he distinguished the colon, the cecum and the rectum. He was the first to give the name *aorta* to that great vessel," and was the first to divide the body into arbitrary regions, for descriptive purposes, *i. e.*, head, neck, body, arms and legs. He gave the name *ventricles* to the cavities of the heart; the diaphragm he called the "diazoma." The testicles he thought were well placed, but not absolutely necessary.

"It is to be remarked," says PORTAL, "that not any physician before ARISTOTLE has written touching the names of parts of the body."

"DIOCLES, the first physician who enjoyed great reputation after HIPPOCRATES," the Athenians called the second HIPPOCRATES. GALEN spoke of him as a man who had made great progress in the art of cure. He flourished one hundred and thirty years after HIPPOCRATES. He invented an arrow extractor, which in the time of CELSUS, bore his name, and also a head bandage which was used for several centuries.

PRAXAGORAS was the next distinguished surgeon. He also was born on the Island of Cos, and was the last of the race of the Asclepiades.

"According to GALEN he was one of the greatest anatomists of his times, but his writings have been lost, and we know little of his anatomic sentiments. * * * he was the first who distinguished between veins and arteries, properly so-called. He also practiced surgery. In the disease called *ileus*, after having the patient swallow a lead ball as practiced by HIPPOCRATES, and the disease still continuing, he made very boldly an incision into the belly, to extract the exerement, and afterward restore the intestine."

Having thus unexpectedly come upon an advanced abdominal surgeon in the fourth century, B. C., the editor, fearing that a discussion of appendicitis might follow next, laid old PORTAL tenderly on the shelf.

IS THERE AN AMBLYOPIA EXANOPSIA?

It is a common observation that the deviated eye in ordinary (non-alternating) strabismus presents often a very low degree of sight, without structural changes to account for it. Two explanations of this condition have been suggested, but it has not yet been possible to decide which is the correct one. On the one hand it is claimed that the deviating eye loses its visual acuity by non-use. Whenever double sight occurs in consequence of want of agreement in the direction of the two visual axes, there is a tendency to the suppression of one or the other of the retinal images. If one of the images is less sharp than the other, on account of a less correct state of refraction of that eye, it is the weaker image which is more easily suppressed. Indeed, in strabismus it is mostly (though not always), the more ametropic eye which deviates. But even when the two eyes are alike, a mental suppression of an image can be maintained by practice, as in the habit of using the microscope with both eyes open. The theory of amblyopia exanopsia presupposes that the persistent suppression of the images of the one eye leads ultimately to reduced sensitiveness of the corresponding optic centers. The proof of the correctness of this explanation is claimed to be the improvement in the sight of the squinting eye after an operation has straightened it so as to permit normal binocular vision.

The opponents of this theory state, however, that such an improvement in sight is not common, and that when it does occur it is but rarely very marked, even after the most perfect squint operation. On the other hand, they say, that in hypermetropia the sight of one eye is frequently much weaker than the other, even when there is no squint. It seems hence probable that the amblyopia of an hypermetropic squinting eye is not the result, but the cause of the strabismus, since with the one eye amblyopic there is no diplopia caused by the deviation, and hence there is no tendency to oppose the deviation in case of imperfect muscular balance. They further point out that monocular weak sight which is not congenital, but due to other causes, such as opacity of the cornea, may also lead to squint.

A striking and unique observation, which throws much light on this question, has been brought before the American Ophthalmological Society by DR. W. B. JOHNSON (detailed in the last number of the *Ophthalmic Record*):

A young man of 19 years applied for the treatment of convergent squint of the left eye. Both eyes were slightly far-sighted, but while the right one had perfect vision, the left one could only count fingers at six feet distance. Ten days after the examination the good eye was destroyed by an accident and had to be removed. Six days later the left eye was again treated and found to be able to count fingers only at three feet distance. DR. JOHNSON then began training the deficient eye in reading test letters. His sight thereupon improved daily. At first his field of vision seemed to be limited to the object at which he was looking directly, but in about one week's time his

range of sight became normal. In less than two weeks the deficient eye had gained perfect vision and kept it permanently.

This valuable observation teaches in the most positive manner that the monocular amblyopia associated with strabismus may be due to a functional condition of the optic center which can pass off after the loss of the better eye. But we must not attempt to deduct false conclusions from this case. We can neither infer whether the poor sight is always of functional origin and hence of unstable character, nor can we say with certainty whether in this case the strabismus preceded the amblyopia or vice versa. Even the question at issue, whether amblyopia can result from non-use of the eye, is hence not definitely decided by this case. But it opens to us the prospect of unexpected therapeutic possibilities in the management of the amblyopia of squint, and therefore should prove a strong stimulus to further studies in this direction.

LIABILITY OF A PHYSICIAN FOR SELLING INTOXICATING LIQUORS IN IOWA.

The Iowa statute which prohibits the sale of intoxicating liquors, makes an exception in favor of licensed physicians, permitting them to dispense, in good faith, such liquors as medicine to patients actually sick and under their treatment at the time of such dispensing. The defendant in the case of State v. Field, decided by the Supreme Court of Iowa, Oct. 5, 1893, was a physician and kept a drug store. The evidence showed that people would go to his store and ask for "red medicine" which meant whisky, or "white medicine," which meant alcohol, and obtain it. A theory of the defense was that whatever was obtained was prescribed by the dispenser as medicine. The trial court instructed the jury that if it found that the liquor was sold and dispensed, as by a physician to patients actually sick and under his treatment, to acquit. This the Supreme Court said was a correct statement of the law, as applicable to such a case, and that it would not be correct to add to the charge the clause, "or whom the doctor believed to be actually sick."

STATE BOARD OF HEALTH FOR GEORGIA.

The AMERICAN MEDICAL ASSOCIATION long ago in distinct terms, commended the establishment of State Boards of Health, and so far as the voice of the ASSOCIATION can be heard, it is thrown in advance to the support of our brethren in Georgia, who urge upon their Legislature the formation of a State Board of Health.

The welfare of the people; the relief of the weak; the prevention of epidemics; the limitation of disease; the increase of longevity, and the happiness of the public, are each to an appreciable extent affected by the establishment of a State Board of Health, with ample powers. Let Georgia fall into line with her sister States.

SOCIETY NEWS.

Southern Surgical and Gynecological Association.

Abstract of the Proceedings of the Sixth Annual Meeting, held in New Orleans, Louisiana, Nov. 14, 15 and 16, 1893.

(Concluded from page 865.)

SECOND DAY—AFTERNOON SESSION.

DR. KOLLOCK, First Vice-President, took the chair, and PRESIDENT BROWN delivered his Annual Address. He selected for his subject,

THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION—ITS ORIGIN, OBJECTS AND AIMS.

He said six years ago a small band of earnest, brave and determined Southern surgeons assembled in the city of Birmingham, Ala., with Dr. Haggard as President, amidst doubts, anxieties and misgivings for the future, to found and organize this Association, and in this effort to build up an organization that would meet the advanced requirements of the times, and that should rank in point of talent, efficiency and high-toned character with the other great institutions of the kind, in this and other countries. But notwithstanding the stupendous difficulties encountered, the vast labor expended and the many obstacles in our path, the Association stands to-day a monument of energy, enterprise and indomitable will power. Dr. Brown then traced the growth of the Association and referred to its work. This excellent paper was printed in full in this JOURNAL November 18.

DR. B. E. HADRA of Galveston, Texas, read a paper entitled

SOME REMARKS ON THE SURGICAL TREATMENT OF EPILEPSY.

He thinks that modern researches promise to divest even the so-called genuine epilepsy of its mysterious functional character, and to make it consequently more accessible to surgical interference. Among the points he would mention as having to be cleared up, is the deficiency in the knowledge of the great number of brain centers that must exist. As an instance he mentions the unquestionable fact that very often the stomach or the intestines give the initial symptoms, but because we do not yet know these centers, and because the signals are very abstruse, it may easily happen that another group of muscles, which only secondarily become excited, is charged with giving the signal. The next point is to find the real seat of the primary morbid changes in the brain, which is not necessarily the focus belonging to the initial signal. Topographical and electrical localization map out only the latter. He insists that the induced current used in a different way will be all we may desire for such a purpose. It must be applied over a large area of the exposed cortex, until a spot is met from where a certain group of muscles not only can be made to contract, but from where a regular epileptic fit can be elicited. This spot must be the locality of the morbid substratum, whether it coincides with the physiologic focus of the muscles giving the signal or not; consequently this spot must be removed.

He concluded his paper with the proposition to have uniform blanks for operations on the brain, and to have the questions filled by a critical friend during the operation in order to avoid neglect and to prevent post-operative imagination from playing its obliging part in the adjustment of the historic data.

DR. JOHN D. S. DAVIS of Birmingham, Ala., read a paper entitled,

THE MANAGEMENT OF THE EPICYSTIC FISTULA.

He said the epicystic surgical fistula is the title given to a supra-pubic fistula into the bladder, created by the surgeon for exploration, intra-vesical treatment and drainage. A fistula which, acting as an artificial urethra, is capable of giving free access to the inside of the bladder for cystoscopic exploration, provides a ready, convenient and comfortable means of emptying the bladder at will, and gives the surgeon a competent opening into the viscus for intra-vesical applications. It constitutes an essential element in the speedy and complete evacuation of the contents of the

bladder in all epicystic operations, and imitates nature in the restoration of its own continuity as the pathologic changes within the bladder subside.

Permanent after-drainage in all intra-vesical operations can not be necessary, but is highly essential to secure good and sufficient drainage until the paravascular tissue is disengorged, the cystitis is relieved and the urine become normal and passes per urethra unobstructed. And until this end is attained, complete artificial arrangement for the escape of the contents of the viscus must be made. In such cases of prostatic hypertrophy or malignant growths, when removal of the obstruction is impossible or contra indicated, the epicystic surgical fistula is clearly indicated and essentially necessary.

Dr Hunter McGuire of Richmond, reported a series of cases of "Tuberculosis of the Bladder."

Dr. William T. Briggs of Nashville, followed with a paper entitled,

PERSONAL EXPERIENCE IN THE OPERATIVE TREATMENT OF STONE IN THE BLADDER.

He said living in the midst of the stone region, and in a city whose celebrity as a surgical center has been long established, it has been his fortune to have met with an unusually large number of cases of vesical calculi. He had had 284 cases of stone under observation during the past 42 years. The Southern States had furnished the greatest number of the cases; a few had come from Western States; Tennessee, Kentucky, and Alabama have supplied the largest number; but Georgia, Florida, Texas, Arkansas, North Carolina, Virginia, Missouri and Illinois have contributed cases. Two hundred and seventy-two of the number were males, twelve females. One hundred and fifty-three were children, or youths under twenty years of age; one hundred and thirty-one were adults varying in age from twenty-one to eighty.

In operations for stone he had not restricted himself to any single method. He had done all of the operations, both cutting and crushing, and he considers it very fortunate that surgery has so many resources for the relief of this distressing and painful malady. The success of every method of operating largely depends on the preparatory treatment of the patient. The preëminent success of Dudley, Mott and others was doubtless due to the judicious treatment employed in the preparation of subjects for the operation; and Dr. Briggs is sure that his own success has been greatly enhanced by a strict observance of the preparatory treatment.

In conclusion, Dr. Briggs said his experience in the surgical treatment of stone in the bladder would sustain the following propositions:

1. No method of operation is adapted to all cases;

2. Thorough preparatory treatment is essential to success;

3. Litholopaxy is *the* operation when the patient is an adult, with a capacious and tolerant urethra, with a bladder free from severe chronic cystitis, and with a small or medium-sized stone or, if large, of soft consistence;

4. The supra-pubic is the best operation for large and hard calculi;

5. The medio-bilateral should be chosen in all other conditions, because it is the easiest, safest and best.

HYPERTROPHY OF THE OMENTUM IN HERNIA, WITH SPECIMEN.

Dr. Geo. A. Baxter of Chattanooga, read a paper with this caption, and presented a specimen (congenital) from a negro, 34 years of age, which had existed until early manhood, about the size of a goose egg. It was directly increased somewhat by working in a rolling mill thirteen years ago, but has had a constant growth since that time until it reached one-half or two-thirds the way to his knees, and became an unendurable nuisance. It was therefore removed, closure being made at the same time.

Dr. Willis F. Westmoreland of Atlanta, read a paper on the

TREATMENT OF GUNSHOT WOUNDS.

The first of this class of injuries that he was called upon to treat was shortly after he had graduated, and it thoroughly convinced him of the fallacy of probing. He never uses a probe in a gunshot wound, except as it may become necessary in the progress of a formal antiseptic operation. The probing rarely does any good beyond satisfying a morbid curiosity. Even if the wound is not infected by the probe itself, it allows the entrance of air. It destroys nature's occlusive blood clot, and in this way prevents prompt union.

Dr. F. W. Parham of New Orleans, read a paper, which will appear in the Journal, on

WYETH'S BLOODLESS METHOD IN AMPUTATION AT THE HIP.

Dr. Parham prefaced his own paper by reading some extracts from a paper by Dr. John A. Wyeth, read before the last meeting of the New York State Medical Association. He made use, also, of the statistics kindly furnished him by Dr. Wyeth. These statistics were as follows: sarcoma, 17 cases, 2 deaths; 11.76 per cent. Inflammatory bone disease, 18 cases, 3 deaths, 16.6 per cent. Violence, 4 cases, 4 deaths, 100 per cent. Nerve injury, 1 case, 0 death. Total for disease, 36 cases, 5 deaths, 13.88 per cent. For injury, 4 cases, 4 deaths, 100 per cent. For both disease and injury, 40 cases, 9 deaths, or a total of 22.5 per cent. In this list is one case now published for the first time. Boy aged 3, sarcoma of thigh, recurrent, amputated by Wyeth's method by Dr. Parham Oct. 5, 1893, discharged cured Oct. 24, 1893. These statistics show a mortality reduction for civil practice of at least one-half. Ashhurst's statistics gave 40.2 per cent. for disease, 82.4 per cent for injury, or a total of 64.1 per cent. Leming gives gunshot wounds, 98 per cent., disease, 42 per cent.

Dr. Parham referred to the various methods proposed for controlling hemorrhage at the hip, and spoke of the various modifications of the Wyeth method. He specially urged that the outer pin should be placed higher, so that the disarticulation might be done before the tube was removed. He favored the suggestion of Thomas that in placing the pins, the tube should be put around first at the proper place, and that then the pins should be put in at the lower border of the tube. He believed that the bone should be dis-articulated entirely without sawing. In conclusion, the reader remarked: "I am inclined to agree with Murdoch that the method of Wyeth is the best yet devised."

Dr. W. B. Rogers of Memphis, Tenn., read a paper entitled,

LAPAROTOMY IN GENERAL SURGERY—REPORT OF TWENTY CASES.

Dr. J. McFadden Gaston of Atlanta, Ga., read a paper entitled,

OPERATIVE PROCEDURES FOR CARCINOMATOUS TUMORS OF THE BREAST.

He said a point of great moment, as to the extent of operative procedure, pertains to the leaving of any portion of the mammary gland, when only partially implicated in the carcinomatous growth. The esthetic element should never enter into the decision of such a vital question as the arrest of carcinoma, and whenever a breast is the seat of a malignant tumor, whether wholly or partially involved, there should be no hesitation about removing the entire glandular structure. If a part of the mammary gland only seems to be involved, and it is evident the knife can be carried outside of the neoplasm into the apparently sound tissues of the breast, there is every reason to believe that if any portion of the gland is left it may become the seat of disease, and that recurrence will most likely follow the operation. On the other hand, an entire ablation offers better prospects of success.

The relative advantages of the knife and cauteries in the management of carcinoma depend very much upon the progress of the disease. In the incipiency of the local trouble, there can be no doubt in regard to the excision being preferable to cauterization, but after full development of a tumor with a tendency to degeneration and breaking down of its structure, the resort to escharotics has its advantages in extending to the remote ramifications of the disease. It is a prevalent impression that certain caustic applications attack diseased structure without affecting the sound tissues, and that the so-called roots of a cancer are thus destroyed. There seems to be some just foundation for this belief in regard to applications of arsenic, but the destructive effect of caustic potash in the form of Vienna paste, extends to every vital structure with which it comes in contact, and the same holds in reference to the plaster of sulphuric acid and charcoal as an escharotic. Dr. Gaston said the treatment of carcinomatous tumors of the breast with caustics had been tested fully by Bougard of Belgium. His paste contains chlorid of zinc, arsenic, cinnabar and corrosive sublimate. Of 160 cases, 62, or nearly 40 per cent. were free from recurrences three years after treatment.

Dr. James A. Goggans of Alexander City, Ala., read a paper on

THE DIAGNOSIS OF SOME ABDOMINAL TUMORS SUPPOSED TO BE OVARIAN.

Dr. Goggans said the first requisite of the abdominal or pelvic surgeon is to acquire the ability to make a diagnosis.

Text-books led one to believe that this was quite an easy thing to do, but his experience had convinced him to the contrary. He then reported a few cases which had come under his observation which served to illustrate the fact that the diagnosis of many cases is often difficult, and in some cases quite impossible.

DR. JOHN T. WILSON of Sherman, Texas, read a paper entitled,

DOES GONORRHEA IN THE FEMALE INVARIABLY PREVENT CONCEPTION?

He said it has long been known that gonorrhea in the female was sometimes attended with complications that proved troublesome and of serious import. Authors had for many years been describing endometritis, metritis, inflammations of the tubes, ovaries and peritoneum produced by an ascending specific vaginitis, these structures being invaded by the poison slowly creeping up through the cervix, involving first the mucous membranes in its tract, and extending by continuity of structure to the deeper tissues. The more serious results, however, were not appreciated, nor so well understood until within recent years, when laparotomy became so common an operation, and the pathology of the more important sequelæ were studied from the specimens themselves. According to the experience of our best authorities, it is so difficult to positively differentiate between gonorrheal and severe simple vaginitis without a clear and authentic history, it being attended with the same symptoms and the properties of also infecting the male, that it is not altogether an easy task to say when ovarian, tubal and uterine troubles, even with the presence of the Neisser gonococcus, have a specific origin, especially as simple vaginitis will sometimes produce them all. Dr. Wilson had observed quite a number of women who were the victims of gonorrheal infection, many of them innocently so, having contracted it from their husbands, and believed it to be an ordinary leucorrhea; many of those whose history he was enabled to follow afterwards bore children, for many years were apparently healthy, and gave no evidence of the usual complications.

Dr. Wilson then reported cases illustrative of some of these conditions and results. That gonorrhea does frequently prevent conception is probably well established; but he does not think it is by any means the universal rule; clinical illustrations are too many to the contrary. If Noeggerath's statements are literally true, sterile women and fruitless marriages would be far more common and the increase in the race would be greatly lessened, for there are a surprisingly large percentage of men judging from his experience, who, if they confessed the truth, have suffered at some time in their lives with gonorrhea.

DR. JAMES E. THOMPSON of Galveston, Tex., read

SOME REMARKS ON THE PRACTICAL TREATMENT OF HEPATIC ABSCESS.

The author confined himself to a few practical remarks on the diagnosis and treatment of hepatic abscess, and reported two interesting cases. He mentioned a few points on the treatment of the cavity after the contents had been successfully removed It is often exceedingly difficult to obtain free drainage, even when large tubes are employed. In some cases, even swabbing the walls of the cavity is ineffectual, and these cases are practically hopeless, owing perhaps to inherent tissue weakness. The author tried curetting in one of his cases, and although he removed as he thought all necrotic tissue, still in a few days the cavity was as bad as before. Continuous irrigation often affords a means of efficient removal, but the tubes have an aggravating habit of becoming blocked, necessitating frequent changing and cleaning. Irrigation with a solution of sulphate of quinin, 1–1000, was in one of his cases remarkably successful, and although the improvement may have been a coincidence and not a *post hoc ergo propter hoc*, he thinks that in cases of amœbic dysentery, at least, it deserves a fair trial.

The following officers were elected for the ensuing year:

President—Dr. Cornelius Kollock of Cheraw, S. C.

First Vice-President—Dr. A. B. Miles of New Orleans, La.

Second Vice-President—Dr. J. B. S. Holmes of Rome, Georgia.

Secretary—Dr. W. E. B. Davis of Birmingham, Ala.

Treasurer—Dr. H. P. Cochrane of Franklin, Tenn.

After introducing and adopting resolutions of thanks, the Association adjourned to meet in the city of Charleston, S. C., third Tuesday in November, 1894.

Vermont State Medical Society.

Eightieth Annual Meeting—Held in Rutland, Oct. 12 and 13, 1893.

Reported by DR. D. C. HAWLEY, Secretary.

FIRST DAY—MORNING SESSION.

The session was opened at 10 o'clock with prayer by the REV. DR. HAINES of Rutland.

Delegates were present from New York, Connecticut, Massachusetts and New Hampshire.

An obituary of Walter Carpenter, M. D., late of Burlington, was presented by DR. HENRY D. HOLTON of Brattleboro.

DR. M. R. CRAIN of Rutland, presented a paper on the

LOCATION OF THE LESION IN PARALYSIS.

He stated that there are two general divisions, atrophic and non-atrophic paralysis.

In the first, there is rapid wasting of the muscles affected, because the lesion is situated at the trophic center, or at some point between the trophic center and the muscles that are paralyzed. These being cut off from the center that controls their nutrition, waste rapidly. The lesion may be in the brain, the cord, the peripheral nerves or their nerve roots.

The non-atrophic form of paralysis is caused by a lesion of the primitive motor center, or at some point between the motor center and the trophic center, causing paralysis without wasting of the muscles, except that caused by disease.

In all cases of paralysis, there occurs secondary degeneration of the nervous tract affected, and the degeneration occurs in the direction the impulses travel. That is to say, if we have a transverse lesion of the cord, the motor fibers will degenerate towards the periphery, while the sensory fibers will degenerate towards the brain.

He uses both the galvanic and faradic currents in electro-diagnosis, but recommended the use of the faradic current, as better for physicians, who had had no special training in electro-diagnosis.

The paper then dealt exhaustively with the localization of the lesion in the brain and cord, in various diseases and in cases of traumatism.

PROF. J. HENRY JACKSON of Barre, presented a paper entitled

SOME THOUGHTS CONCERNING THE LIVER IN HEALTH.

He said that one office of the liver, not usually assigned to it, was to confine the digestive ferments to their own proper domain, where they are eminently useful, and to prevent their emergence into the general circulation, where they would be decidedly harmful. Prof. Albertoni has found that peptones injected into the jugular vein depress the circulation, arrest the secretion of the kidneys and cause convulsions and death.

We recognize the action of the liver in the destruction of waste and surplus albuminoids, and we are learning that urea is formed, to some extent, by the liver, and not by the kidneys, and that lithiasis or lithemia is primarily a derangement of the liver.

The amount of glycogen in the liver varies from 3 to 10 per cent.

Glucose when taken as food and absorbed from the alimentary canal, is deposited in the liver as glycogen, the change which takes place being a dehydration, i. e., glucose minus water equals glycogen. While in this condition the glycogen forms part of the substance of the liver, and is probably reserve material, to be afterwards consumed in some other part of the body. It is converted into glucose by the addition of one equivalent of water, and carried away from the storehouse as the wants of the system require.

A variety of circumstances may so increase the percentage of glucose in the blood as to cause a saccharin condition of the urine.

Adjourned.

FIRST DAY—AFTERNOON SESSION.

DR. J. D. BREWSTER of Windsor, presented the Vice-President's Annual Address, entitled,

A REVIEW OF TREATMENTS OF PHTHISIS PULMONALIS,

In which he said: I shall deal with the subject in a retrogressive manner beginning with a review of modern ther-

apy and then compare our advanced(?) ideas with those of our forefathers.

I shall make three divisions of the subject: 1, prophylactic; 2, medicinal; 3, climatic.

1. Prophylactic.—It should date from birth. A baby should not nurse either a mother or wet-nurse who is consumptive. The much-advertised baby foods are to be tabooed, for *not one* of them contains, in sufficient quantity, that most necessary ingredient—fat. Great care should be taken that no impure cows' milk is used. Over feeding, under feeding—in short, anything that interferes with nutrition, should be guarded against. The two things most likely to correct a consumptive tendency in childhood are, first, systematic physical exercise in the open air, and second, change of climate. Finally, knowledge of hygienic laws must be diffused among all classes.

2. Medicinal.—Is there a medicinal antidote to tuberculosis? No. Nevertheless medicines are important and used for three main purposes, viz.: improvement of nutrition; to combat complications; and to lessen suffering by meeting the various symptoms which arise. Cod liver oil serves as a food, and under its use many cases show remarkable improvement in appetite, digestion and tissue nutrition. It is more valuable in the young than the old. As regards the use of alcohol, if it produces "a sense of comfort without any excitation of the circulation, or of the nervous system," well and good, but if it occasions "flushing, weariness or discomfort of any kind," it does harm.

Cough, expectoration and the rapidity of emaciation are progressive with the fever. Its reduction is a necessity, and the most reliable agents are sulphate of quinin and rest. An expectorant cough should be aided in every way. A superfluous cough is best relieved by codein. For night sweats, I recommend picrotoxin, and for diarrhea, especially if dependent on ulceration, the hypophosphites of lime and soda, bismuth, resorcin, etc., are sometimes markedly beneficial.

3. Climatic.—The whole subject will allow of no fixed rules. 1, a good climate must be one of a different nature than that in which the disease originated; 2, a moist air, with a sandy, porous soil, is preferable to a dry air with a clayey, non-porous soil; 3, pure air is absolutely best, and pure air means *absence of dust;* hence 4, altitude is beneficial simply because of freedom of rarified air from dust; not that altitude itself has any curative effect; 5, an uninhabited region is best; 6, the question of a hot or a cold climate is to be determined by the circumstances of the case; 7, the good effects of a change are in a vast measure due to the attention paid to sanitary laws.

Diet is of great importance.

The Amick treatment and "gaseous enemata" were referred to and summarily condemned.

The older treatments, as far back as the days of Galen, were gone over, and the paper closed with the statement that our predecessors made about as much progress in treatment as have we with our boasted advantages and increased facilities for pathologic investigation.

Dr. O. W. Sherwin of Woodstock, presented a paper (prize paper) entitled

SEPTICEMIA.

He said the most common causes of septicemic infection are the microbes and ptomaines of putrefaction and suppuration, and septicemia must be considered to be a warfare between these microörganisms and the body cells.

He said septicemia shows four forms or degrees, namely, fermentation fever, sapremia, progressive sepsis and pyemia, detailing at length the etiology and symptoms. He placed special stress on prophylaxis, and urged the necessity of precision in the use of the terms asepsis, antisepsis and disinfection. He considered treatment in pyemia as of no avail.

Dr. E. M. Pond of Rutland, read a paper (prize paper) on

PERITONITIS.

He classified the causes of peritonitis as: 1, traumatic; 2, infective. Under the first head we have intestinal obstruction, ectopic gestation, perforation of stomach or intestines and appendicitis.

Infective cases may follow labor or abortion, and many are caused by gonorrheal infection.

In tubercular peritonitis, laparotomy is the only treatment.

In nearly all traumatic cases early operative measures are necessary.

In appendicitis, operation is indicated: 1, when symptoms of diffuse general peritonitis are rapidly developing; 2, when the onset of symptoms are violent and signs of septicemia are present; 3, when there is a well-defined tumor that is increasing, even if pulse and temperature are improving; 4, when the symptoms are increasing beyond a time when they should be improving; 5, in chronic relapsing appendicitis—in most of these cases a tumor is present which does not disappear between the seizures; 6, when abscesses develop.

At no time should the use of opium be pushed so as to mask the symptoms.

Dr. Horace Tracy Hanks of New York, read a paper entitled

THE PALLIATIVE AND RADICAL TREATMENT OF FIBRO-MYOMATA OF THE UTERUS.

After giving a description of the different varieties of fibroid tumors, he said that for the sub-mucous variety, he used ergot or electricity to produce uterine contraction, so as to force a pedunculated tumor through the external os, or to destroy its growth in the uterus if it is sessile.

In case of an interstitial tumor which is approaching the endometrium, there will generally be excessive hemorrhage. Slight dilatation of the cervix should be resorted to, for complete diagnosis, and to allow the curette to pass easily, and it should be thoroughly used and followed by careful irrigation.

The galvanic current should then be employed. This will generally check the growth and prevent excessive hemorrhage.

In the sub-peritoneal variety, ergot and galvanism should be given a thorough trial, and a major operation, most certainly an hysterectomy is not demanded, unless the patient is a great sufferer from the discomfort produced from the size of the tumor, or from excessive hemorrhages which can not be controlled.

Dr. Hanks then described at length the operation of supra-pubic hysterectomy, in which he urged the necessity of thorough asepsis.

FIRST DAY—EVENING SESSION.

Dr. H. R. Wilder of Swanton, delivered the President's Annual Address. Dr. Wilder dwelt upon the value of society organization to the profession in this and in every State, and urged the thorough enforcement of the license law, as it stands on our statute books, recommending the examination of all candidates, without reference to former credentials.

He advised the amending of our Code so as to permit physicians to consult with members of other schools, provided they be men of rectitude and of sufficient intellectual worth to make it practicable.

He urged young physicians to remember the "vis medicatrix naturæ," and to be not over free in the use of drugs.

The address closed with an urgent appeal to all members of the profession to stand in unity.

Dr. J. H. Linsley of Burlington, read a paper entitled,

TUBERCULOSIS, WITH LANTERN DEMONSTRATIONS OF PHOTO-MICROGRAPHS.

He said: Fifteen per cent. of all deaths in the civilized world are due to pulmonary tuberculosis. This fact should be a sufficient stimulus for unflagging efforts on the part of every medical man, to contribute his mite in the effort to advance the prophylaxis and therapeutics of this formidable enemy of mankind.

The bacillus tuberculosis of Koch is the sole and invariable cause of this disease. Without this microörganism, there is *never* tuberculosis.

The continued presence of tubercle bacilli in the discharges is usually the first evidence of tuberculosis, and these microörganisms can, many times, be detected before the existence of this disease is suspected, or at least, evidenced by other symptoms. They may be detected by any physician who has had a reasonable amount of practice with the microscope.

There is as yet no accepted specific for treating consumption. The non-specific method consists of all those measures which tend to strengthen the natural resistance of the system, improve nutrition and efface that special nutritive vice which is so pronounced an element of "susceptibility." A prolonged residence in an invigorating climate, an open air life, *rest*, careful and even forced feeding, cod liver oil, arsenic, creasote and all reconstructive measures are grouped under this head. The paper was illustrated by a series of pictures from lantern slides, made from photo-micrographs, thrown on a screen.

After adjournment, the annual banquet was held at the Bates House, at which 125 covers were laid.

(To be continued.)

American Electro-Therapeutic Association.

The Third Annual Meeting Held in Chicago, Sept. 12, 13 and 14, 1893.

AUGUSTIN H. GOELET, M.D., President.

(*Continued from page 867.*)

ELECTROLYSIS IN THE TREATMENT OF TUMORS OF THE BLADDER.

Read at the Third Annual Meeting of the American Electro-Therapeutic Association, in Chicago, Sept. 12, 1893.

BY ROBERT NEWMAN, M.D.

NEW YORK.

Fellow and Member Executive Council, American Electro-Therapeutic Association; Consulting Genito-Urinary Surgeon to German Dispensary, West Side and Hackensack Hospital; Consulting Surgeon Bayonne Hospital; Consulting Physician to Home for Aged and Infirm, Yonkers; Honorary Member Ulster County Medical Society, Danbury Medical Society, etc.

Electricity has done much to make the treatment of tumors of the bladder more successful than the means formerly employed. It can be used in three different forms: 1, electric light to make the diagnosis positive; 2, galvano-cautery to remove the tumor wholly or in part; and 3, electrolysis for the removal or absorption of the tumor by degrees, while the patient is perambulent.

Radical operations have been made by supra-pubic cystotomy and removal of the tumor, either by exsection or by galvano-cautery.

The present paper will illustrate only methods the author has employed with electrolysis, in such a manner that the patients were not detained from business or pleasure, came to the office for treatment and went home after the séance, sometimes necessitating travel by rail. Most patients were females, but the principles employed can also be used in males. The only difference in treating males consists in having the instruments made a little longer to comply with the anatomic differences. Only non-malignant tumors are treated in the manner described.

Non-Malignant Tumors of the Bladder—have been described by many authorities, which to cite here would be out of place. Recently an excellent paper on this subject has been written by Dr. John B. Hamilton,[1] which is a concise essay, almost exhausting the subject, and giving much information. The authors cited there are Stein, Thompson, Tuffier, Ricard and Bousquet, Watson, Southan, Dittel, Wallace, Perregaux, Jewett, Norton, Guyon, Barling, Spanton and Kelly. We find in this paper the very good classification of non-malignant tumors by Barling, the history, etiology, pathology, symptoms, diagnosis, treatment and statistic tables. The treatment described is surgical, but not a word is said about the use of electricity. Hence all which can be found in the literature on the subject is omitted here, and only the methods of electricity employed by the author, and his instruments used, will be described and considered now.

The tumors which appear in the bladder are of a different character, as enumerated by Barling, Goulson and others. Tumors which came under the author's observation were mostly papillomata, myomata and vascular (angiectasia venosa).

Diagnosis.—The malady is suspected by certain symptoms, as pain, irritability, frequent micturition, chills, insomnia, general malaise, hematuria in intervals, sudden retention and the abnormal state of the urine.

I.—OCULAR INSPECTION.

A diagnosis of tumor can only be made with a certainty by ocular inspection of the bladder by the cystoscope and endoscope. The cystoscope of Leiter is illuminated by a storage battery, and if successful the experienced operator will see the tumor, rather a little magnified, as plainly as in a good bright daylight. The cystoscope will not be always successful, but when it reveals the tumor, the diagnosis is a certainty. To verify such a diagnosis made, the author uses also the old Desormeaux endoscope immediately after the cystoscopic examination. If the same condition is seen as found before by the cystoscope, the location of the tumor is verified by an exact measure; how far the tumor is situated from the meatus, and how far it is situated either right or left of the median line. If such a measure is taken carefully and embodied in the notes of the case, the tumor can be found again with any instrument to be employed hereafter. The writer has used the endoscope of Desormeaux since 1866 in diseases of the urethra and bladder. In examination it shows the parts as they really exist at the end of the endoscopic tube, and thus can be reached in loco with instruments and solutions, but only to the extent of the focus in sight; other places may be reached by changing the tube to another focus. The diagrams shown here will explain best the endoscope, which has been used very little by the profession. The advantages of the cystoscope are, that it gives a better light, magnifies the parts, and the whole bladder can be explored, giving at once a large field in focus; but it serves only as a means for diagnosis.

For direct ocular inspection, Dr. R. T. Morris has invented an excellent endoscopic tube, which is very simple; the light is thrown into it through a head mirror. The management of either appliance needs some practice. So far, the author has had the best results, and was enabled to make a positive diagnosis by employing both the cystoscope and endoscope in succession, as also before and after using electrolysis. Other examinations for diagnostic purposes are made by exploring the bladder with a bougie à boule or a sound, by injection or irrigations of the bladder, in order to find the capacity of the viscus, the state of the walls, its mucous linings, abnormal contractions, and the sensibility of the patient.

Benign Tumors in the bladder may be of different varieties, as mentioned in text-books.

FIG. 1.—Electrode for local and general electrolysis.

FIG. 2.—Platinum needle.

A, platinum point; B, for connection with battery; C C, parts insulated.

FIG. 3.—Glass speculum, urethral.

The tumors have been cured by electrolysis per urethram, and therefore pathologic and microscopic specimens could not be procured.

Treatment.—Concomitant with the electrolysis, or as a preparatory treatment, measures are employed to make the patient comfortable. To allay pain anodynes are given, best in the form of rectal suppositories and external galvanization. The tone of the bladder must be restored and the troublesome spasm conquered. Medicated injections, washing out and irrigating the bladder are important. Systematic and very gradual dilatations of the bladder succeed so well, that the viscus will soon tolerate twelve ounces to a pint, when formerly it could hold scarcely four ounces.

II.—GALVANO-CAUTERY

Will do good service in removing the tumor by degrees. After the tumor is well located the galvano-cautery instrument is marked by a ring in such a manner that after introduction the platinum wire will cover the tumor in the bladder when that part of the instrument marked by a rubber ring appears at the meatus. Then the fenestrum containing the platinum wire is pressed downwards against the tumor, and by pressing the current breaker a few times on a screw, the platinum wire is instantaneously heated from a storage battery. The instrument is almost identical with the author's galvano-cautery sound, and only differs in being shorter and almost straight at the end. The two poles run inside a tube insulated, so that nothing will be heated but the platinum wire situated in the fenestrum. The author has never failed to galvano-cauterize the exact place wanted, which fact was verified by an ocular inspection with the cystoscope. However, if there should be any doubt about the exact situation, the operation can be done with the place to be operated upon fixated, while the bladder is illuminated with the cystoscope. In the same manner a galvano-cautery sling may be used to remove a tumor at the pedicle.

[1] JOURNAL OF AMERICAN MEDICAL ASSOCIATION, May 20, 1893, p. 553.

III.—ELECTROLYSIS

May be used in different ways, but always, under all circumstances, a galvanic battery is necessary; no other will do, or in other words, the constant current of a galvanic battery is imperative. As a rule the negative pole is applied to the affected part. The positive pole, in the shape of a pad or a covered carbon, is held in the palm of the hand, or pressed externally over the supra-pubic region.

Each séance may last from five to fifteen minutes, as indicated by method and circumstances. The strength of the current is from 5 to 20 milliampères, an average of 10 milliampères. The intervals of séances are governed by the result of each operation and by the condition of the patient. The first step in the modus operandi is to draw off the urine, which can be done with the urethral glass speculum, Fig. 3, which is a very useful auxiliary, as will be shown later. If necessary, the bladder is washed out through the same glass speculum, and at last four to six ounces clear water are left in the bladder. This water may contain a little table salt or bicarbonate of soda, which facilitates the electrolytic action. In most electrolytic operations in the bladder it is of great importance to have the bladder filled with water, and when the cystoscope is introduced the water is a necessity to keep the electric lamp cool. Without the water, the lamp would burn the mucous lining. After these preliminaries, the electrodes are applied, each in its place, and the electrolytic action begins, the current being gradually increased from zero to the desired strength.

DIFFERENT METHODS OF ELECTROLYSIS.

There are principally two methods, general and localized:

FIG. 4.—Vesical tenaculum caché. A, tenaculum covered by the safeguard; B, tenaculum free, safeguard open.

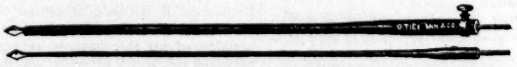

FIG. 5.—Cannulated needle electrode.
A, needle in cannula complete; B, needle removed from cannula; C, screw-fixing needle.

1, general electrolysis is accomplished by holding the electrode bulb in the water which fills the bladder, without touching the tumor. The electrode, Fig. 1, is insulated, except at its extremities. One extremity has an olive metal bulb which is introduced as the negative pole per urethra into the bladder, and held beneath the water without touching the tumor. The positive pole, in the shape of a pad, is held in the hand or on any cutaneous surface which completes the circuit. Then the current from a galvanic battery is slowly and gradually increased to the desired strength, and the electrolytic work begins—from the water to the tumor. It is surprising what good effect this general electrolysis has on the tumor and on the general condition of the patient; it allays pain at once, makes the patient more comfortable, and has a specific, absorbing and healing effect on the tumor. The latter effect is slow but steady.

Other advantages of this method are, that it can be done often; in fact almost daily, or in the intervals between other localized operations, which saves time and encourages the patient, who never complains of any pain during such séance. When tumors were almost removed, but a vestige left, which scarcely could be reached locally without encroaching on sound tissue, this method of general electrolysis has done such good service, that the case was finally cured; 2, local electrolysis, negative pole against the tumor or penetrating the same. *a*, electrode metal bulb in contact with tumor; *b*, platinum needle in tumor; *c*, fixation of tumor and platinum needle in tumor; *d*, cannulated platinum needle direct in tumor, with or without fixation.

There we have four methods, from which one can be selected according to indications and the work to be done.

a. Electrode metal bulb in contact with the tumor. The same electrode, Fig. 1, as described in general electrolysis, is also used for this method. The only difference from the former is that the metal bulb is firmly held against some part of the tumor, and in contact with it. After a certain time, when the electrolysis has acted enough in one place, the point of the electrode may be moved to another part of the tumor, and changed successively to different parts.

b. Platinum needle in tumor. This, and the next two following methods, are made on the same principle as the electrolytic treatment of nævus. The negative needle is introduced into the tumor, and then the electrolytic action absorbs or destroys the tumor; this electrolyzed portion shrivels up, contracts, heals by degrees till a healthy surface appears.

The urethral glass speculum, Fig. 3, is introduced so far into the urethra that its end is near the entrance of the bladder. Into the speculum the platinum needle, Fig. 5, is so far advanced that its end is near the opening of the speculum. Then with a quick movement speculum and needle are pushed into the bladder, and at the same moment the needle is pushed forward to be left in the bladder, while the speculum is removed without discharging the water left in the bladder. Then the needle is pierced into a part of the tumor and electrolysis used as before. Sometimes it is a little uncertain where and how deep the needle passes, and in such doubt another method may be practiced. However, an operator who has sufficient experience will overcome such uncertainties, and if necessary he can see the needle's action and location by using at the same time the cystoscope, which has been done.

c. Fixation of tumor and platinum needle in tumor. This and the next method are nearly the same in principle as the last described. The difference is only a greater certainty in the location of the needle, by a new instrument devised by the writer, the Vesical Tenaculum Caché, Fig. 4. The tenaculum is protected at the end by a safeguard which can be moved and thereby leaves the tenaculum free. This tenaculum runs in a very slender stem, which when in the urethra occupies little space and permits other instruments to pass alongside at the same time. The tenaculum is introduced; when in the bladder the safeguard is withdrawn and the tumor fixated and held firmly by the tenaculum. Then if the safeguard is pushed forward, the tenaculum can not disengage itself from the tumor and has a steady hold on it. If there is any doubt about the location of the tumor, the cystoscope can be introduced alongside of the tenaculum and the latter can be seen and guided into the exact location desired. Then the cystoscope is removed and the needle introduced, the stem of the tenaculum acting as a guide. Electrolysis is applied, the instruments removed, and if desired the parts may be inspected again with the cystoscope.

d. Cannulated platinum needle direct in tumor. For this method another new instrument is used, the Cannulated Needle Electrode, Fig. 5. The needle inside the cannula is fastened by the screw, *c*, at such a place that the sharp point is covered by the cannula. Then the cannula is introduced in the bladder, and at the same time the needle is pushed forward as far as it can go, Fig. 5, *c*, the screw fastened again. In this position the needle fills out the cannula so firmly that no water can escape from the bladder. The point of the needle projects out of the cannula scarcely more than one-eighth of an inch. If the needle is now forcibly pushed into the tumor it can not penetrate further than the one-eighth of an inch, and therefore can not do any harm. If it is desirable, either the tenaculum or the cystoscope may be used at the same time. However, there is scarcely a necessity for doing so, as the writer always found the exact spot he wanted to penetrate, which was verified by a subsequent inspection with the cystoscope. This instrument proved to be invaluable in these cases for

diagnosis and treatment. It is hoped that it will be still more improved, so that it will be easier to inspect and operate at the same time.

The new instruments here demonstrated have contributed greatly to the success of operation. These instruments have been devised by the author as necessity required.

In most cases it will be necessary to use both local and general electrolysis, the method to be selected according to indications.

CONCLUSIONS.

1. Tumor of the bladder in the male can be treated by electrolysis; but in most cases it will be preferable to perform supra-pubic cystotomy and remove tumor by galvano-cautery, electrolysis or the knife for a radical cure.

2. The methods here described for tumors of the bladder have been used in females in *non*-malignant tumors. A galvano-battery only must be used.

3. All operations have been made per urethra, without any assistant, without any anesthetic, without any pain, without any detention, patients being perambulent, coming and going as they pleased.

4. The result having been very satisfactory, patients acknowledging a cure, and in some cases reliable physicians having made examinations and pronounced patient cured.

5. While the result has been favorable, it is not asserted that electrolysis will cure all benign tumors of the bladder.

DR. HOLFORD WALKER of Toronto, asked if the author had any experience in the treatment of enlarged prostates by this method.

DR. NEWMAN replied that his experience had been confined to treating females by this method. In males, supra-pubic cystotomy is ordinarily better than electrolysis for bladder tumors.

DR. GREEN said he had made applications to enlarged prostates, and in the majority of his cases he had been pleased with the result.

DR. MARTIN had had no experience with this class of cases, but was prepared to believe thoroughly in anything advocated by Dr. Newman.

DR. ENGLEMAN said that the author was to be complimented on using the true surgical principle of seeing the spot before attacking it. He was astonished to learn that the treatment could be carried out with such facility, and with almost no restrictions imposed on the patient.

DR. NEWMAN, in closing the discussion, said that patients with such bladder tumors suffer excruciating pain. One case came to him the first time in a carriage, and walked into his office very slowly and with much difficulty, but was soon decidedly relieved. He did not wish to convey the impression that the treatment was so very easy, for it is often difficult to manipulate the tenaculum and other instruments properly. He always felt that he needed the patient's consciousness to guide him.

ON INVESTIGATION OF DR. NEWMAN'S STATISTICS.

We have examined the records of Dr. Newman's cases of urethral stricture submitted to us, and regard his conclusions as well sustained by the statistics he has presented, and as far as our experience in this line of work adds further testimony, it is confirmatory of the value of the continuous current in resolving a large class of urethral strictures.

The Committee made diligent efforts during the year to comply with the directions given them, to enlist the co-operation of surgeons of large experience in other methods of treatment of urethral stricture in examining both the patients and statistics, but failed to receive such assistance from them.

A. H. GOELET.
WILLIAM J. MORTON.
Chicago, Sept. 11, 1893. W. J. HERDMAN.

ADDENDA TO REPORT OF COMMITTEE ON ELECTRODES.

DR. WM. J. MORTON of New York, exhibited some new electrodes which he had found especially useful. First, an ordinary large circular dispersion electrode was shown, to which was adapted a circular cap of soft rubber. This cap could be fitted to electrodes of any size, and its rim, which turned over upon itself, served to collect the fluid which escaped from the electrode, and which would otherwise soil the patient's clothes. He then showed the way in which he wrapped his carbon electrode with "punk," by wrapping the disc in the punk, tying it securely by a wire wound in a groove, encircling the rim of the electrode, and finally trimming off the superfluous punk. He found this material most agreeable to the patient, and it had the very valuable property of retaining moisture for a long time. The third piece of apparatus was a cataphoric electrode, consisting of a hollow box of ebonite, the bottom of which was formed by a disc of block tin. This was covered, as in other electrodes of this class, with a thin disc of blotting paper. The hollow ebonite portion is filled with the solution to be employed, and this is gradually fed through perforations in the tin plate on to the blotting paper. The object of this special construction is to enable the operator to use a larger quantity of the solution than could be placed directly on the blotting paper, and at the same time to reduce to a minimum the space between metallic and electrolytic conduction. This latter point is of extreme importance in practice. Lastly, the speaker showed an intra-uterine electrode which he had been compelled to have made to order, as nothing of the kind could be found at the instrument-makers. He did not claim originality in its construction, but exhibited it simply on account of its utility in the Apostoli method of intra-uterine treatment. The essential points in construction were, increasing the length of the intra-uterine portion of the sound, and providing an interval or insulated area corresponding to the cervical portion of the sound. By this device a large portion of the current was prevented from being absorbed by the cervix. It also possessed a ring of ivory to act as a guide to the depth to which it was to be inserted; and lastly, its tip was insulated by hard rubber. Though in no sense novel in any one feature, the combination seemed to offer a practical working electrode.

The report was accepted and the Committee continued.

(To be continued.)

New York County Medical Association.—At a meeting of the New York County Medical Association held Nov. 20, 1893, Dr. Samuel E. Milliken presented three patients on whom he had operated for the radical cure of varicocele by the excision of all the diseased veins. These three, he said, belonged to a series of seven successful cases in which he had performed the operation. He expressed the opinion that in this procedure there was no occasion for excising the lower end of the scrotum, as advocated by many surgeons of repute. Dr. Milliken then exhibited an apparatus for the application of the plaster-of-paris jacket in Potts' disease, while the patient was in a recumbent position, and in connection with the demonstration made some remarks on "Immobilization *versus* Extension." The principal paper of the evening was by Dr. Augustin H. Goelet, on the "Treatment of Uterine Fibroids." At the conclusion of the discussion on the paper, the following resolutions in regard to the death of Dr. William T. White, late Vice-President of the Association, were adopted:

The New York County Medical Association, in recognition of the services of Dr. William Thomas White, a deceased member, desires to dedicate to his memory upon its minute book the following tribute:

Resolved, That this Association acknowledges in all his labors, so unstintedly offered, the spirit of exact justice and honest purpose of the best interests of the profession.

Resolved, That his unimpeachable candor, fortified by a rare courage and a strict construction of the right, was not allowed by him to degenerate into a mere love of conflict, or to obscure his underlying amiability.

Resolved, That, accompanying the above, a brief biographical sketch be likewise added to the archives as a reference for the preparation of a future memoir.

Society of Surgery of Paris.—The Société de Chirurgie of Paris, recently celebrated the fiftieth anniversary of its foundation. All the members were present and a great many associates and foreign associate members. The Chair of Honorary President was occupied by M. Marjolin, one of the founders of the Society. M. Verneuil was active Pres-

bury in January, 1804, and removed to New Haven in 1845. He was a graduate of Yale Medical School. He wrote a hisident, and was assisted by MM. Perier, Monod, Kirmisson, Schwartz, Larrey, Brouardel, Boeckel (Strasbourg), Reverdin (Genève) and Sir Spencer Wells of London. The session was opened by M. Marjohn who was made the object of a most sympathetic ovation. He was also presented a medal commemorative of the ceremony.—*Noveaux Remèdes*, Nov. 8, 1893.

At the last meeting of the Section on General Medicine of the New York Academy of Medicine, there was a discussion of unusual practical interest, participated in by some of the most prominent teachers and practitioners of the city, on "Therapeutic Instability," illustrated by pneumonia and typhoid fever, with special reference to dietetics and specifics, cardiac and general stimulants, and antipyretics. It was opened by a paper on the statements made in leading works on medicine of the past twenty-five years, by Dr. Wm. L. Stowell, who gave a carefully prepared résumé of the teachings of American, English and Continental authorities from Chambers, in 1866, down to Hare's "System of Therapeutics" and Osler's "Practice," and wound up by quoting Horatio C. Wood's observation that the modern practice of medicine is a mixture of science and empiricism. The other speakers were Drs. Wm. H. Draper, A. A. Smith, George L. Peabody, Simon Baruch and Charles E. Quimby, the Chairman of the Section. Dr. Alfred L. Loomis, who was to have discussed the subject of "Antipyretics," was prevented by illness from being present, but some of the others referred to the question in the course of their remarks. Thus Dr. Peabody, whose topic was "Accepted Teachings of To-day," expressed the opinion that the use of antipyretic drugs, in doses sufficient to reduce the temperature, is absolutely unjustifiable in pneumonia. When there is hyperpyrexia, it is his practice to resort to the Brandt method of cold baths in this disease. In typhoid fever, he stated that this method was rapidly superseding all others, and that he believed it was worth more than all the other means of treatment employed in the last twenty years. Drs. Smith and Baruch also expressed themselves as enthusiastically in favor of the cold baths; the latter stating that the only remedies commended during the discussion of the evening which he found mentioned in Hippocrates were the hygienic ones, dietetics and baths. This, he thought, was good evidence of the stability of these remedies. All the speakers conceded the first place to alcohol, as a cardiac and general stimulant, although agreeing that it should not be used so indiscriminately, or in such large quantities, as it was twenty or twenty-five years ago. Quinin, which was formerly given in such enormous doses, is still regarded as a useful agent if not prescribed in larger quantity than six or eight grains a day. Digitalis, which declined in favor for some time, is now gaining again, and the same is true of oxygen. In speaking of the use of the latter in pneumonia, Dr. Peabody said that he thought it was of service when there was dyspnea due to an involvement of a large amount of lung tissue, but not otherwise. Strychnia, which was scarcely at all used a few years ago, has been rapidly growing in favor as a tonic and stimulant, and now holds a deservedly high place. Caffein is also looked upon at the present time as a very valuable agent. Opium still holds its own, not only as an alleviator of pain, but as a tonic and stimulant (if given in proper quantity and not continued for too long a time), and Dr. Smith placed it next after alcohol in this capacity. The preparations of ammonia, which were formerly so generally employed, have now been pretty nearly abandoned, with the exception of the aromatic spirits, which does not produce the same digestive disturbance as the others. The ethers and camphor have also been found lacking. As to intestinal antisepsis in typhoid, the results thus far have been disappointing, but the hope was expressed that in the future some means would be discovered, not for destroying the germs of the disease, but for antagonizing the septic alkaloids to which they give rise in the system. In short, as Dr. Peabody remarked, we have at the present day, in pneumonia and typhoid, entirely a matter of intelligent, expectant and symptomatic treatment.

CORRESPONDENCE.

The McDowell Biography.

[A Card from the granddaughter of Ephraim McDowell, M.D.]

To the Editor:—Members of the medical profession and others, who have kindly subscribed to my work, "The Biography of Ephraim McDowell, M.D.," and who have not yet received their copy, are hereby notified that the delay has been unavoidable, owing to the magnitude of the undertaking, the necessity of my securing a certain number of subscribers before I could publish the second edition, and my desire to thoroughly revise the work and incorporate new articles of interest gathered since the issue of my first edition, which was exhausted before all orders could be filled.

I have now nearly completed this revision, and hope to have the new edition published and delivered in the early part of the new year.

As I will have to make my deliveries in the consecutive order in which the subscriptions were taken, I must ask the indulgence of subscribers until they receive their copy.

Very respectfully,

MRS. M. T. VALENTINE,
Formerly Mrs. Mary Young Ridenbaugh,
Granddaughter of Ephraim McDowell, M.D.

P. O. Box 92, Philadelphia, Pa. Nov. 27, 1893.

NECROLOGY.

Dr. O. M. Ballard, Hancock, N. Y., died November 17.

Dr. J. J. Krebs, Clearspring, Md., died November 24.

Dr. Leland A. Babcock died at Chicago, November 29.

Dr. I. H. Wright, Neenah, Wis., aged 80, November 29.

Dr. P. F. Collins, Cumberland Co. Ind., December 1.

Dr. Theodore Luebkemann, Eau Claire, Wis., November 28.

Dr. Leander Smith of Lexington, Ky., died November 18.

Dr. W. H. Pollard of Fort Worth, Texas, died, aged 82, November 23.

Dr. J. S. Wright, for eighteen years a practicing physician of Newton, Iowa, died November 24, of apoplexy.

Dr. G. R. Parsons, who had been confined to his bed several weeks, died at Kerrville, Tex., on November 27.

Dr. John P. Crichton, an old resident of Atlanta, Ga., died November 17, after having been in feeble health for a year or more.

Dr. Isaiah Josiah Willis Rowe, an old resident, died at Gorham, N. H., at the advanced age of 79 years. He was a son of Ephraim and Lavina Rowe of Bethel, and was born in that town Oct. 19, 1814, and moved to Gorham in 1857.

Dr. James Calder died at his home in Harrisburg, aged 67, November 24. He was once a missionary to China, and served at different periods as President of the State College at Bellefonte, the Hillsdale, (Mich.) College and the Shippensburg Collegiate Institute.

Dr. Herbert J. Pomroy, a physician in Providence, and a son of Collector of Port Gorham Pomroy, died suddenly November 27. He was 38 years of age, and a graduate of Harvard. He was a member of the State Board of Charities, Providence Press Club, Rhode Island Yacht Club and other associations in that city.

Dr. Henry Bronson, New Haven, Conn., died November 26. He was an invalid for many years, and was born in Water-

tory of Waterbury and a number of articles on political economy topics. It is said that he leaves an estate valued at $1,000,000.

George B. Boyd, M.D., aged 64 years, graduate of Jefferson Medical College, Philadelphia, and surgeon in Military Hospital during the war, was found dead in bed at his home, Scranton, Pa., November 27, having passed away suddenly from cerebral hemorrhage. He was one of the founders of Lackawanna Hospital and a prominent member of the Lackawanna Medical Society.

Dr. Robert McNutt, a veteran surgeon of the Union Army and a man of superior literary and scientific acquirements, died at Des Moines, Iowa, December 2, aged 67 years. He was practicing his profession in Alabama at the outbreak of the Rebellion, and, being a loyal Union man, he was subjected to great persecution, but succeeded in escaping to the Federal lines, and was appointed surgeon of an Iowa regiment.

Dr. J. H. L. St. Germain, a practitioner of Ste. Hyacinthe, Canada, died rather suddenly in that town on November 23. He was sixty years of age and had suffered for some time from heart disease. Born in 1833, at Repentigny, he was educated at Ste. Hyacinthe, and after his university course graduated in 1854. For thirteen years he practiced at Stanfold, and in 1890 settled down at Ste. Hyacinthe. For several years he occupied a seat in the City Council. He was the author of several works in medicine, and was a member of the College of Surgeons and Physicians of the Province of Quebec, and had been the founder and first president of the Medico-Chirurgical Association of the District of Ste. Hyacinthe.

Dr. William Gray Palmer, one of the best known physicians in Washington, died Nov. 23, 1893, at his residence, 1700 13th Street, in the seventieth year of his age. He leaves a wife and five children; two sons in Chicago, and three daughters in Washington.

Dr. Palmer was one of the oldest practitioners in the District and came of a family of medical men, all of whom attained prominence in the profession. He was born in Montgomery County, Md., and graduated from the medical school of the University of Pennsylvania, in 1844, at the age of twenty, settled in Bladensburg, Md., and in 1850 began practice in Washington. He was a member of the AMERICAN MEDICAL ASSOCIATION.

William Henry Jackson, M.D., who died suddenly November 25, at his home, 556 Madison Avenue, was born in New York in 1810. He was the son of the late Rev. John Frelinghuysen Jackson. After graduation from the College of Physicians and Surgeons in 1835, he traveled abroad in company with Dr. Valentine Mott. While abroad he visited the different hospitals in the large cities and went as far as Egypt, where he made the medical institutions of that country objects of special study. On return to this country he was made Head Surgeon of the New York Hospital. His close application to study and the duties of his important place so injured his health that he was obliged to give up active practice of medicine and devote himself almost entirely to the lighter care of managing his large estate.

Dr. Jackson was the oldest member of the College o Physicians and Surgeons, the Historical Society and the St. Nicholas Society. The last he joined in 1845. He also belonged to the County Medical Society, the Academy of Medicine, the Patria Club and the American Museum of Natural History.

Prof John Tyndall died at Haslemere, County of Surrey, Eng., December 4. John Tyndall was born in Ireland in 1820, was appointed to a position in the Ordinance Survey and afterward Teacher of Natural Philosophy at Queenswood College, Stockbridge, and in 1853 Professor of Natural Philosophy in the Royal Institution, succeeding Faraday. His first great paper was to the Royal Society on "Molecular Influences—Transmission of Heat through Organic Structures." His next papers published in Philosophical Transactions, "On the Vibrations and Tones produced by the Contact of Bodies having Different Temperatures," 1854; "On the Physical Phenomena of Glaciers," 1857; "On Some Physical Properties of Ice," 1858; "On Transmission of Heat through Gaseous Bodies," 1859; Six papers on radiation, 1861–1865; "On Calorescence," 1865; "On the Invisible Radiation of Electric Light," 1865; in 1867 he lectured on "Sounding and Sensitive Flames."

He gave a lecture on "Dust and Disease," January, 1870, and has written many books, too well known to enumerate here.

MISCELLANY.

Is a Postmaster.—Dr. Merton W. Brown has been appointed postmaster of Cedarville, N. Y.

La Grippe is expected again this winter. London is reported to have many cases at this time.

M. Brissaud has been appointed for one year to the charge of the service of the late M. Charcot at the Salpêtrière.

Mid-winter Doctors.—Fourteen young gentlemen were graduated at the California Medical College, November 27.

Prof. Da Costa.—It is a current rumor that Prof. J. M. Da Costa will deliver a course of lectures at the University of Pennsylvania this winter.

Dr. Gibney's Fire.—Dr. V. P. Gibney's house 16 Park Avenue, New York, was damaged by fire, on Thanksgiving day. Dr. Gibney and family were absent in Kentucky at the time.

Quarantine Raised.—Surgeon Murray, M.H.S., gave Brunswick double reason for celebrating Thanksgiving by removing the Government quarantine around the city November 30.

New Hospitals.—Dallas, Texas, is to have a Cottage Hospital.

The new Mercy Hospital at Des Moines, Iowa, was opened November 28.

A Maternity Hospital is to be established at Duluth, Minn.

Dr. Carlos Montezuma, in charge of the Indian school at Carlisle, who is himself a full-blooded Apache Indian, brought thirty Indian children to the eye department of the Medico-Chirurgical Hospital, Eighteenth and Cherry Streets, to be placed under the care of Professor L. Webster Fox for bad vision.

They Played Foot-Ball.—The medical students of the College of Physicians and Surgeons of New York, and of Bellevue Hospital Medical College, played a game of foot-ball at the polo grounds. The game was won by the College of Physicians and Surgeons, by a score of 8 to 4. The game is said to have been a good one, although nobody was hurt.

Women Physicians in the East.—The Presbyterian Board of Foreign Missions have succeeded in obtaining permission for women physicians to practice in Turkey, in connection with their missionary work. Dr. Mary P. Eddy, the daughter of Rev. W. W. Eddy, is the first to whom the permission has been accorded.

A Wise Braufrau.—The only woman in the United States who has won the bubble reputation, as a successful operator of a brewery, has built and given to the German Hospital

of Newark, N. J., a two-story addition to the Hospital to be used as a training school for nurses. The building was dedicated on Thanksgiving day with appropriate ceremonies. The donor, Mrs. Christina Trefz, was present.

A New Episcopal Hospital.—An estate valued at a million dollars nearly, has been bequeathed to Grace Church, New York, under the will of the late Mrs. Mary March, for the establishment of an institution for the relief of the sick, aged and indigent persons belonging to the parish of that church. This charity will be known as the John Payne March Memorial Hospital. Under the same will a donation will accrue to Bellevue Hospital, New York.

Discontinuance of Sanitary Inspectors.—In accordance with orders from the Surgeon-General, Marine Hospital Service, the services of the sanitary inspectors who have been on duty on the Canadian and Mexican frontiers during the past summer were discontinued on Nov. 1, 1893. The officers of the Marine Hospital Service at Quebec will, however, be kept on duty there until the cessation of immigration at that port.

Weight Should Govern the Class.—Dr. Wm. T. Porter recently lectured in St. Louis on "Reform in Education." He advocated the grading of all classes in schools by physical weights and measurements instead of by mental capacity. He asserted that children who are physically weak are crowded beyond their strength, and that eventually their minds become weaker by this intellectual overcrowding. What the French call *surmenage intellectuel*.

Mrs. Elma A. Travis of Mount Vernon, New York, was admitted to practice as a physician at a meeting of the Westchester County Medical Society held at Yonkers, November 21. She has since filed her certificate as a medical practitioner with the county clerk at White Plains, and it is stated that she is the first female physician in Westchester County. It certainly seems remarkable that she should be the first representative of the fair sex in the ranks of the profession in Westchester, when one recalls the fact that the county is immediately adjoining that of New York.

Medical Training Institute at Agra, India.—Dr. Colin Valentine, a Scottish medical missionary, is the principal of this school for native young men. It is eleven years old and now has a curriculum extending over a period of four years. Eighteen students have been in attendance during the past year. The students live in the Institute and receive tutorial training from Dr. Valentine and an assistant. The students attend lectures at the Governmental Medical College of Agra, and receive a degree therefrom when ready for graduation. The annual cost for the sustentation of a student is $80.

The Czar of Russia recently issued a ukase on medical fees which divides the population into three separate classes; the first one composed of the nobles, the capitalists, the landowners, the manufacturers, the bankers, the principal merchants, and members of the first six classes of the civil, military and naval service. The second class comprises lawyers, parsons, and professional men of one kind and another, as well as government employes of the seventh and eighth grades; while class number three is of the remainder of the population. For patients of first class the fee is limited under severe penalties to $2.75 for each consultation; for those of the second class to $1.65; while the cost of medical advice to the masses is limited to 19 cents.

Ophthalmologists.—The Grand Duke Karl Theodore, heir presumptive to the Palatinate of Bavaria, is the director of two eye-hospitals, one at Munich and one at Meran, in the mountains, to the south of the capital. He does a goodly amount of eye work among the poor. He takes no fees, but a box at the door of the consultation room has been arranged to receive voluntary contributions. He has now the help of his eldest daughter, the Duchess Sophia, as his chief assistant. They both begin the day's work at 7 o'clock in the morning. The Hospital in the mountains has the preference with the Surgeon, for there he gets the better results after operations; he spends the larger half of his time at Meran.

Drunken Wasps.—Mr. Lawson Tait, the well-known English surgeon, says that the sugar in certain fruits becomes changed into alcohol during the process of decay, and that wasps sometimes get very drunk thereon. On grapes and certain plums he says, "you will see them get very drunk, crawl away in a semi-somnolent condition, and repose in the grass for some time till they get over the 'bout,' and then they will go at it again." Moreover, Mr. Tait declares "that they do their worst in staging, both in the virulent nature of the stroke and the utterly unprovoked assaults of which they are guilty. I was stung last year by a drunken wasp and suffered severely from symptoms of nerve poison for several days. In such drunken peculiarities they resemble their human contemporaries."—*New York Tribune*.

The Fatalities from Foot-ball seem to be increasing. On November 21, James O'Brien, a student at Manhattan College, New York, died of peritonitis resulting from injuries received in the game. In his case it was ascertained that the diaphragm had been ruptured. During the month of November not less than six young Americans have been killed in playing foot-ball, and a seventh, John White of Farmington, Conn., received injuries which will probably prove fatal. In his case there was a fracture of the spine, and should he recover he will be a cripple for life. From the records kept by an English gentleman, recently published in the *New York Herald*, it appears that during the last foot-ball season in England there were twenty-six fatalities, in the previous season twenty-two, and in the season before that twenty-three.

Fever at Tarrytown, New York.—Dr. Hermann Biggs of the New York City Board of Health, has recently reported on a case of fecal contamination of the water supply at Tarrytown. He was invited to make a survey of the sources of that supply in consequence of the prevalence of typhoid fever in the town. The water is largely drawn from three wells sunk in a marsh, into which several brooks empty from the adjoining hills. One brook enters the marsh at a point less than a quarter of a mile distant from the pumping station. On this stream there was found a house in which one or two cases of fever had occurred in September. The privy belonging to this house discharged directly over the brook. Water taken from the brook and from the supply wells gave unmistakable evidences of contamination.

Result of Operations at New Orleans.—A correspondent in New Orleans writes for the information of members of the Southern Surgical and Gynecological Association who attended the recent session there, that all the operations performed by members at the Charity Hospital resulted in recovery. The operations were done through the courteous invitation of Dr. Ernest S. Lewis and Dr. A. B. Miles, and were as follows: abdominal section for occlusive salpingitis and peritonitis, with adhesions, by Dr. Joseph Price of Philadelphia; abdominal hysterectomy for uterine myoma, by Dr. Howard Kelly of Baltimore; abdominal section for suppurative salpingitis, by Dr. L. S. McMurtry of Louisville; supra-pubic cystotomy for chronic cystitis, by Dr. Hunter McGuire of Richmond; trephining for traumatic epilepsy, by Dr. W. T. Briggs of Nashville. All these operations were performed in the operating theater of the Hospital, in the presence of the medical class of Tulane University and members of the Association. All the cases passed into easy convalescence without unfavorable symptoms.

St. Mark's Hospital Will Sell "Patrons'" Bonds to Complete Its Edifice.—The corporation of St. Mark's Hospital has built a hospital at 177 Second Avenue, which accommodates seventy-five patients. So far about $50,000 has been raised and expended, and more is needed to carry the charitable undertaking to success. In order to raise this money it has been decided to offer patrons' bonds of the value of $10 each, redeemable without interest within twenty years, at the pleasure of the corporation.

Attached to each of these bonds are ten hospital coupons, each transferrable and each good for free treatment in the outdoor department until the discharge of the patient, or good for one day of free hospital treatment, including medical attendance, medicine and board. Ten patrons' bonds

will entitle the holder to dispose of a free hospital bed for a period of four months on presentation of all the coupons. The holder of fifteen bonds can dispose of a bed for six months, and thirty bonds places a bed at the disposal of the holder for a year.—*New York World.*

Abuse of Medical Charity.—Dr. Seneca D. Powell, who was recently elected President of the Medical Society of the County of New York, delivered his inaugural address on November 27. A portion of it was devoted to expert medical testimony in criminal cases, and he made the suggestion that a medical commission should be created to regulate the selection of experts. In another part of the address he asked that the Society should take some action in regard to the increasing abuse of free treatment in the hospitals, dispensaries and other institutions of those who were able to pay for medical attendance. In relation to this he remarked: "A flagrant instance is furnished by the course of the Board of Health in its recent crusades of wholesale vaccinations. There is little to be said of the work in Cherry Street and the like, but when employes of prosperous business houses and rich corporations, and even of the moneyed men of the Produce, Stock, and the Consolidated Exchanges and the Board of Trade, the preposterous extent of the abuse, and the consequent professional injury, are seen at a glance."

In reply to the criticism of Dr. Powell, the Health authorities state informally that the Board of Health has power to take such measures as it deems best for the suppression and prevention of disease. In order to prevent the spread of smallpox it was determined to vaccinate as many persons as possible, and this year the vaccinations performed will amount to over two hundred thousand.

Tribute to Dr. Abraham Jacobi.—American scholarship has received a flattering recognition from the savants of the Old World in the invitation recently extended Dr. Abraham Jacobi of New York, to take the Chair of Pedology in the University of Berlin. This professorship has been ably filled for a period of twelve years by Dr. Hanroch. The offer was received by Dr. Jacobi in the latter part of October and his answer declining to accept the place was sent the same day by telegraph.

Dr. Jacobi, who was seen at his home, 110 West Thirty-Fourth Street, by a *Tribune* reporter, said in speaking of the proposition:

"I received a letter about five weeks ago informing me that, out of a number of scientific men, I was chosen to take Dr. Hanroch's place as Professor of Pedology in the University of Berlin. Associated with this function is the Children's Clinic at the Charitè Hospital, which is the great charitable hospital of Berlin. I immediately sent a message of declination by cable. It was without doubt a great honor, but I was inspired to refuse the offer because I am an American citizen, and do not care to change my citizenship. Besides that, I have my work to do here, and although the offer was a flattering one, still I could not leave a country where I have been so kindly welcomed and so cordially received, as I have been here.

"I am bound by every tie of gratitude and affection to remain where I am. You will understand what I mean when I tell you that forty years ago I came to this country a poor boy, for I was not much more than a mere boy then. I had been imprisoned in Prussia for the part I took in the political revolution which swept nearly over the whole of Europe in 1848. I had nothing but myself and my profession. I became a naturalized citizen five years after my arrival here. From the first I was kindly received by the members of my profession. Almost every position of honor and esteem within the power of the profession to bestow has been given me and I am grateful. I have been very happy here in the land of my adoption, and nothing which could be offered me abroad could be a greater source of delight or honor than I have received from my profession here. Since my reply declining the place has been received at Berlin, I have received a number of letters urging me to reconsider my refusal. But I am contented and happy here in New York. I would have nothing especially to gain by accepting, and much to lose.

"I look upon this offer as significant of two things: first, it proves the universality of the scientific brotherhood; it shows that among men of science there is no question of nationality. Second, it shows that there is something in American scholarship worthy of the recognition of the best scientific minds of the world. If it were some other American besides myself I would feel disposed to glory over the honor."

Dr. Jacobi was born in Hartum, Westphalia, in 1830. He studied at the Universities of Griefswald, Gottingen and Bonn. From the latter University he received his degree. For taking part in the revolutionary uprising he was convicted of treason and confined in the prisons of Minden and Bielefeld till the summer of 1853. After his discharge Dr. Jacobi went to England, and in the following autumn sailed for New York, where he has since practiced his profession.

In 1861, Dr. Jacobi became Professor of Diseases of Children in the New York Medical College, and later, had the same chair in the medical department of the University of the City of New York. In 1870 he was made Clinical Professor of the Diseases of Children in the College of Physicians and Surgeons, which chair he still holds.—*New York Tribune.*

THE PUBLIC SERVICES

Army Changes. Official list of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from November 25, 1893, to December 1, 1893.

First Lieut. ALEXANDER N. STARK, Asst. Surgeon U. S. A., is relieved from duty at Ft. Clark, Texas, and will report in person to the commanding officer, Ft. Sam Houston, Texas, for duty at that post.

Navy Changes. Changes in the Medical Corps of the U. S. Navy for the week ending November 25, 1893.

Asst. Surgeon M. W. BARNUM, from the "Richmond," and to the "Kearsarge."

Surgeon J. W. ROSS, from Pensacola Hospital, proceed home and wait orders.

Surgeon L. B. BALDWIN, from the "Michigan," and to the Pensacola Hospital.

P. A. Surgeon J. S. SAYRE, to the "Michigan."

P. A. Surgeon A. C. CABELL, from the "Kearsarge," and leave for three months.

P. A. Surgeon G. P. LUMSDEN, from the Ironclads, Richmond, Va., and to the "Kearsarge."

P. A. Surgeon F. A. HESSLER, from the "Vermont," and to the Ironclads, Richmond, Va.

Asst. Surgeon JAMES F. LEYS, from the Laboratory, Brooklyn, N. Y., and to the "Vermont."

Asst. Surgeon M. R. PIGOTT, from the "Kearsarge," and to the "Richmond."

New York National Guard Hospital Corps.

Details of its organization prescribed by Adjutant General Porter. Adjutant General Porter's order from headquarters regarding the establishment of a Hospital Corps is of interest to the National Guard. The Corps is to consist of the hospital stewards of regiments and battalions, and privates to be detailed for this duty.

It is specified that commanding officers of regiments shall detail eight privates, commanding officers of battalions not part of a regiment shall detail four privates, and commanding officers of companies, troops, and batteries shall detail each one private, but no private shall be so detailed except with his own consent and on the recommendation of the senior medical officer of the organization. Men may also be specially enlisted for the purpose of such detail, but they will be required to drill with their organizations until they are instructed in the school of the soldier. To qualify them for their Hospital Corps duties, they must follow a course of instruction prescribed by the Surgeon General.

At the close of the course of instruction the detailed men of the Corps shall be examined as to their proficiency by a Board to be appointed for that purpose.

The uniform of the Corps is to be that prescribed by law and regulations for their respective grades and organizations, with the addition that a private of the Corps shall wear on his left arm above the elbow a lozenge of white cloth containing in the center a Geneva cross of red cloth. During an engagement, or in an emergency, the company litter bearers may wear, as a distinguishing mark, a brassard of red cloth around the left arm above the elbow.

Commanding officers are now carrying out these orders.

LETTERS RECEIVED.

(**A**) Ayers, D., Syracuse, N. Y.; Allen, E. P., Athens, Pa.; (**B**) Battey, Dr. Robert, Rome, Ga.; Brown, Dr. Bedford, Alexandria, Va.; Brown, Morean R., Chicago; Blakiston, Son & Co., Philadelphia, Pa.; Baker Co., Philadelphia, Pa.; Brown, E. J., Minneapolis, Minn., 2; Bacon, Dr. C. S., Chicago, Ill.; (**C**) Cium, F. D., New York City; Cleaves, Dr. M. A., New York City; (**D**) Dunglison, R. J., Philadelphia; (**E**) Elliston J. Morris, Philadelphia, Pa.; (**F**) Farnham, F. H., Detroit, Mich.; (**K**) Keeley, G. G., St. Louis, Mo.; Knapp, C. P., Wyoming, Pa.; (**L**) Lansing, H. C., Union, Ky.; Lord & Thomas, Chicago, Ill.; (**M**) Mullen, C. J., Reno, Nev.; Murdoch, J. B., Pittsburg, Pa.; (**P**) Parsons, Dr. T. S., Lansdowne Pa.; (**R**) Radnickl, Jos., Chicago; (**S**) Strong, H. R., St. Louis, Mo. Sloan, Dr. M. G., Dexter, Iowa; (**W**) Welker, James C., New York City Whitford, Wm., Chicago.